Kevin Mooney
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VIA ELECTRONIC MAIL

January 22, 2018

Erich Weissbart, P.G.
EPA Region 3
Land and Chemicals Division
701 Mapes Road
Fort Meade, MD 20755

Subject: **Semi-Annual Project Progress Report: July-December 2017**
RCRA Corrective Action Permit MDD046279311
Former Appliance Park East Facility
Columbia, Maryland

Dear Mr. Weissbart:

Please find attached the Semi-Annual Project Progress Report for the former Appliance Park East facility in Columbia, Maryland. This report covers the period from July 1 to December 31, 2017, and is submitted by the General Electric Company (GE) pursuant to Condition II.C of the above-referenced permit, as modified by the United States Environmental Protection Agency (EPA).

As required by Condition I.B.9 of the above-referenced permit, I certify under penalty of law that the enclosed report was prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Please contact me or Belssi Chang Lee of Tetra Tech at (410) 990-4607 if you have any questions regarding the attached report.

Sincerely,

Kevin Mooney
Senior Project Manager
GE Global Operations - Environment, Health & Safety

Attachment

cc: Belssi Chang Lee, Tetra Tech (via email)
Ed Hammerberg, MDE (via email)
Curt Lebak, RREEF (via email)
Bill Rowe, Howard Hughes Corporation (via email)

SEMI-ANNUAL PROJECT PROGRESS REPORT

RCRA CORRECTIVE ACTION PERMIT (PERMIT)

Permittee:	General Electric Company (GE)
Permit Number:	MDD046279311
Prepared for	GE Global Operations – Environmental Remediation 159 Plastics Avenue Pittsfield, Massachusetts 01201
Prepared By:	Tetra Tech, Inc. (Tetra Tech) 51 Franklin Street, Suite 400 Annapolis, Maryland 21401
Date:	January 22, 2018
Report Period:	July 1, 2017 to December 31, 2017
Copies:	Maryland Department of the Environment (MDE) RREEF Engineering The Howard Hughes Corporation

1. Progress Made This Period

Underground Storage Tank (UST) No. 9 - CMS Unit 4

The most recent post-termination groundwater monitoring event was performed in November 2016; the report (Tetra Tech, 2016) was previously submitted to EPA. Attachment 1 includes a summary of the results. Based on the results from 2014 and 2016, GE requested in December 2016 EPA approval to perform final verification sampling in accordance with the 2013 Post-Termination SAP to verify attainment of the clean-up goals. Per EPA's response (December 19, 2016 email[i]), a statistical evaluation was conducted in the second half of 2017 to determine if the concentrations are statistically below drinking water standards for EPA to approve the final verification sampling. The statistical evaluation is being submitted to EPA under separate cover (Tetra Tech, 2018a) and indicates that chemicals of concern have likely decreased to levels below Maximum Contaminant Levels by 2013.

[i] Email from Erich Weissbart, P.G., Land and Chemicals Division, USEPA Region III to Belssi Chang, Tetra Tech, December 19, 2016.

Volatile Organic Compounds (VOCs) in Soil and Groundwater Beneath and Around the Former Manufacturing Building - RCRA Facility Investigation (RFI) Unit 2

The Parcel A-10 pump-and-treat system was fully operational over the last six months as noted in the monthly monitoring reports submitted to the United States Environmental Protection Agency (EPA) for this reporting period (i.e., July through December 2017). Attachment 2 includes summary tables and figures showing the site plan and performance monitoring results for the pump-and-treat system.

A groundwater monitoring event was conducted in November 2017 in accordance with the approved SAP dated May 4, 2011; the report (Tetra Tech, 2017a) was previously submitted to EPA. Attachment 2 includes a summary of the results including groundwater elevation data, groundwater elevation contour maps for the saprolite and bedrock units, and summary of analytical results. The groundwater samples were collected using passive diffusion bags (PDBs). Tetra Tech deployed the (PDBs) on October 27, 2017 and retrieved them on November 10, 2017 to collect the groundwater samples. The samples were analyzed for volatile organic compounds (VOCs) by EPA Method 8260. The groundwater analytical results are summarized in Table 2; Table 3 presents trichloroethene (TCE) results since June 2007. Figures 9 and 10 illustrate the change in TCE concentrations since June 2000 at wells located within the plume core and at wells located at the plume toe and cross-gradient of the plume, respectively[ii]. The groundwater elevation and sample results from the November 2017 sampling event show that the hydraulic containment system continues to operate as intended. Specifically, VOC-impacted groundwater continues to be contained on Parcel A-10.

Termination testing of the Phase II soil vapor extraction (SVE) wells continued thus the system did not operate during the reporting period (i.e., July through December 2017) except for brief periods as part of the testing. Attachment 3 includes a site plan for the Phase II SVE system, a plot showing the cumulative VOC mass removed by the system through time, and a flow chart that shows how the system has progressed through the termination criteria specified in the approved *Operation and Maintenance Plan, Soil Vapor Extraction System, Updated June 2011* (SVE O&M Plan).

For the termination testing, Press Pit SVE manifold lines PMVE-1, PMVE-3, and PMVE-5 were shut down on May 5, 2017. Subsequently, per the termination criteria (Attachment 3), the wells were turned on for approximately one hour on June 9, July 7, and October 6, 2017 to take photo-ionization (PID) readings. The PID readings ranged from 1 ppm (at PMVE-5) to 8 ppm (at PMVE-1). The PID readings measured (0 to 6 parts per million [ppm]) were less than ten percent (<10%) of the original concentrations ("concentration criteria"). Therefore, SVE manifold lines PMVE-1, PMVE-3, and PMVE-5 have met the termination criteria. As indicated

[ii] Abnormalities in the trends shown on Figure 9 (2MW-11) and Figure 10 (S-2, S-4, 2MW-4) are due to non-detect results, which are considered to be anomalous based on the analytical results from subsequent sampling events.

in the previous progress reports, SVE wells TVE-1S, TVE-1D, TVE-11D, and TVE-12D met the termination criteria in June 2016 and SVE manifold lines PMVE-2 and PMVE-4 met the termination criteria in March 2017. All SVE wells have now met the termination criteria and remain off pending EPA approval to permanently shut down and decommission the SVE system in accordance with the approved SVE O&M Plan. Per November 27, 2017 email communication[iii], GE is submitting the request for EPA approval under separate cover (Tetra Tech, 2018b).

Warehouse Building Oil/Water Separator and Acid Neutralization Units - RFI Unit 6

The most recent monitoring event under the EPA-approved August 19, 2002 SAP was performed on November 17, 2017 (the prior 5-year monitoring event was conducted on November 29, 2012). Groundwater samples were collected from monitoring wells 6MW-1, 6MW-2, 6MW-3, and OBG-65. The groundwater monitoring results were presented in the report submitted to EPA on December 11, 2017 (Tetra Tech, 2017b). Attachment 4 includes a summary of the groundwater monitoring results including groundwater levels and the respective groundwater elevations (Table 1) and summary of analytical results (Table 2). VOCs were not detected in any of the groundwater samples except for 6MW-2, which is located at the former oil/water separator under the building. The groundwater elevation data and sample results show that the extent of VOC-affected groundwater remains within the footprint of the Warehouse Building.

Other Activities Conducted Pursuant to the Permit

The current RCRA Corrective Action Permit was issued by EPA for the facility with an effective date of November 3, 2012. In accordance with Part II.B.3 of the Permit, GE submitted an Institutional Control Plan (IC Plan) dated January 24, 2013 to EPA. By its email to GE, EPA approved the IC Plan on February 5, 2013. EPA approved the environmental covenants (ECs) for each of the properties subject to the IC Plan previously; however, following submittal of the signed ECs for parcels A-8, A-10 and A-15, MDE and EPA requested that the EC template be revised. An EC has been executed and recorded for Parcel A-8. GE is in communication with EPA regarding the ECs for the remaining parcels.

3. Five-Year Evaluation of Remedy Performance

Under the current Corrective Action Permit, the final remedy for the facility consists of the pump and treat system, SVE system, long-term groundwater monitoring of CMS Units 2 and 7 (Parcels A-10 and A-40), CMS Unit 4 (former UST-9 area), and RFI Unit 6, and implementing Institutional Controls. The goal of the remedy for facility-wide corrective action is to ensure the overall protection of human health and the environment.

[iii] Email from Erich Weissbart, P.G., Land and Chemicals Division, USEPA Region III to Belssi Chang, Tetra Tech, November 27, 2017.

Continued operation of the groundwater pump-and-treat and SVE remedial systems at CMS Units 2 and 7 has reduced the contaminant mass and impacted area reducing the possibilities of future pathways to receptors. Figures 4 and 8 to 10 in Attachment 2 show that TCE concentrations in groundwater continue to decrease and the footprint of the plume is shrinking. As can be observed in Attachment 2-Figure 8 and Table 3, the TCE concentrations measured in November 2017 are one order of magnitude lower than the concentrations measured in June 2000 in several groundwater wells including S-3, 2MW-11, 2MW-5, 2MW-8S, and 2TP-7.

As indicated earlier GE is requesting EPA approval to permanently shut down and decommission the SVE system as SVE wells have reached and maintained a 90% reduction in concentrations since startup. In addition, based on the results of the two most recent biennial (2014 and 2016) groundwater sampling events and statistical analyses, GE is requesting EPA approval to proceed with the verification sampling to confirm attainment of the clean-up goals at CMS Unit 4 (former UST-9 area).

The current remedy is protective of human health because there are no current pathways to receptors for groundwater or soil vapor. There is no contamination of surface soil, sediment, or surface water so the remedy is protective of the environment. In summary, the pump-and-treat system continues to operate as intended, i.e., VOC-impacted groundwater continues to be contained on Parcel A-10 and the current remedy is protective of human health and the environment.

4. Problems Encountered During This Period

No problems were encountered during this period.

5. Projected Work for the Next Reporting Period

UST No. 9 - CMS Unit 4

As indicated previously, GE conducted statistical calculations in the second half of 2017 to determine if the concentrations are statistically below the drinking water standards. Pending EPA approval, final verification sampling will be conducted in April/May 2018.

VOCs in Soil and Groundwater Beneath and Around the Former Manufacturing Building - RFI Unit 2

The Parcel A-10 pump-and-treat system is expected to operate at full-scale through the next reporting period, with the exception of the operation of recovery well B-3 (which will be sampled again in September 2018 to monitor for rebound in VOC concentrations). The next groundwater monitoring event will be conducted in May 2018 in accordance with the SAP. Groundwater monitoring will include the monitoring wells on a semi-annual and annual sampling frequency.

Pending EPA approval, the Phase II SVE system will be permanently shut down and decommissioned based on the termination criteria in the approved SVE system O&M Plan.

Warehouse Building Oil/Water Separator and Acid Neutralization Units - RFI Unit 6

The next monitoring event is scheduled for October/November 2022.

Other Activities To Be Conducted Pursuant to the Permit

As stated previously, GE is continuing work towards finalizing the ECs for each of the properties subject to the IC Plan. Once the ECs have been executed by all appropriate parties, the ECs will be recorded with the Howard County Land Records.

6. Changes in Personnel

There were no changes in personnel during this reporting period.

References

Tetra Tech, Inc. (Tetra Tech) 2016. *Biennial Groundwater Sampling and Analyses for Underground Storage Tank (UST) No. 9. RCRA Corrective Action Permit MDD046279311, Former Appliance Park East Facility, Columbia, MD*. November 30, 2016.

Tetra Tech, 2018a. Statistical Analyses of Groundwater Monitoring Results for Underground Storage Tank (UST) No. 9, RCRA Corrective Action Permit MDD046279311, Former Appliance Park East Facility, Columbia, MD. January 18, 2018.

Tetra Tech, 2018b. Request to Permanently Shut Down and Decommission SVE System, RCRA Corrective Action Permit MDD046279311, Former Appliance Park East Facility, Columbia, MD. January 18, 2018.

Tetra Tech, 2017a. *Semi-Annual Groundwater Monitoring Report, November 2017 Sampling Event, RCRA Corrective Action Permit MDD046279311, CMS Units 2 and 7, Former Appliance Park East Facility, Columbia, Maryland*. November 29, 2017.

Tetra Tech, 2017b. *RFI Unit 6 Groundwater Monitoring Report, November 17 Sampling Event, RCRA Corrective Action Permit MDD046279311, Former Appliance Park East Facility, Columbia, Maryland*. December 11, 2017.

Attachments

Attachment 1: Findings Summary for Underground Storage Tank (UST) No. 9 - CMS Unit 4

Attachment 2: Findings Summary for Groundwater for RFI Units 2 and 7

Attachment 3: Findings Summary for the Phase II SVE System at RFI Units 2 and 7

Attachment 4: Findings Summary for Warehouse Building Oil/Water Separator and Acid Neutralization Units RFI Unit 6

ATTACHMENT 1

To Semi-Annual Project Progress Report
RCRA Corrective Action Permit
No. MDD046279311

General Electric Co.
Former Appliance Park East Facility
Columbia, MD

Period 1 July 2017 to 30 December 2017

Findings Summary for Underground Storage Tank (UST) No. 9 - CMS Unit 4

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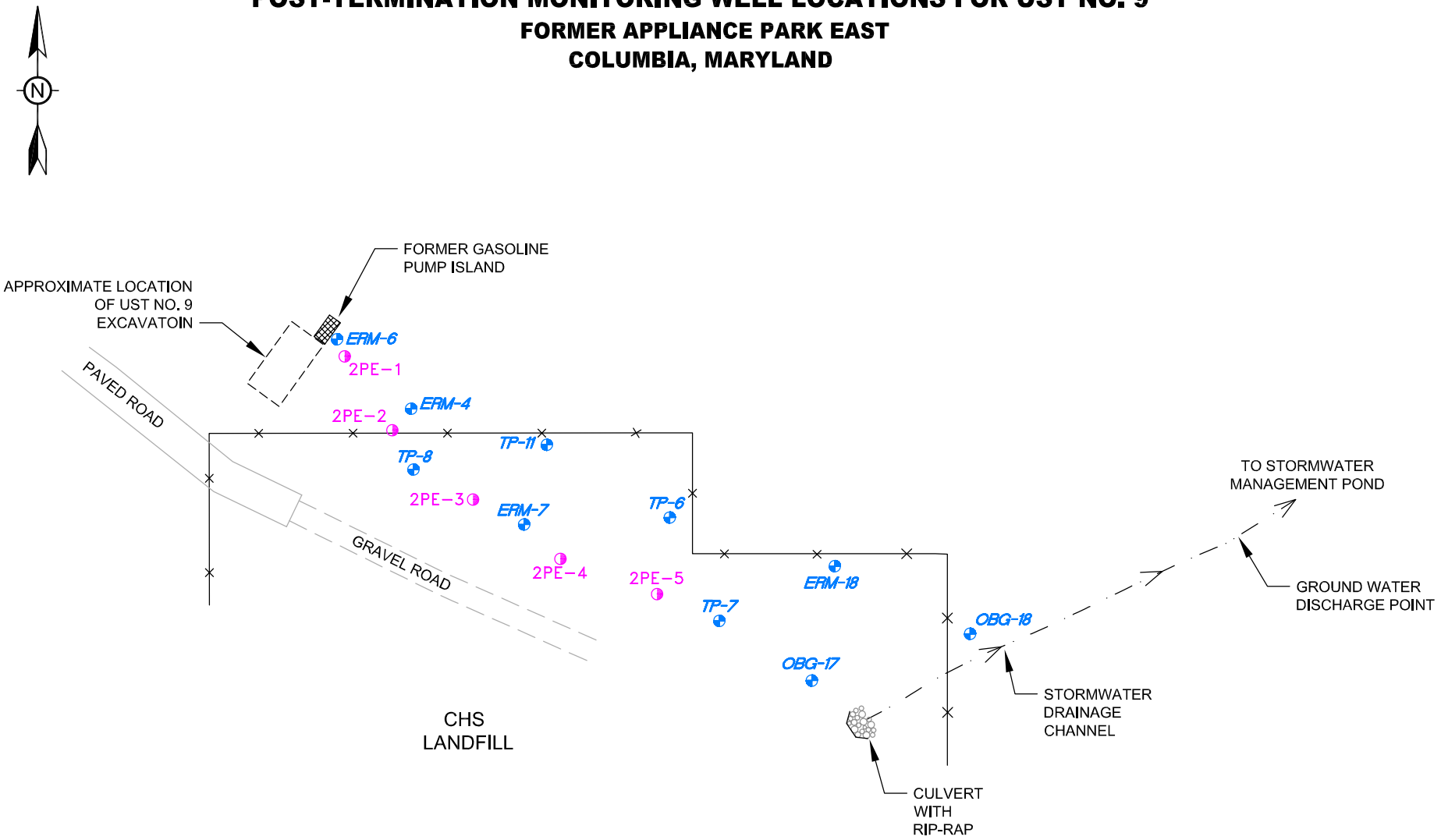
FIGURE 1
POST-TERMINATION MONITORING WELL LOCATIONS FOR UST NO. 9
FORMER APPLIANCE PARK EAST
COLUMBIA, MARYLAND



LEGEND

2PE-1 2-PHASE WELL LOCATION

ERM-4 POST-TERMINATION MONITORING WELL LOCATION

FENCE

0 100 200

SCALE IN FEET

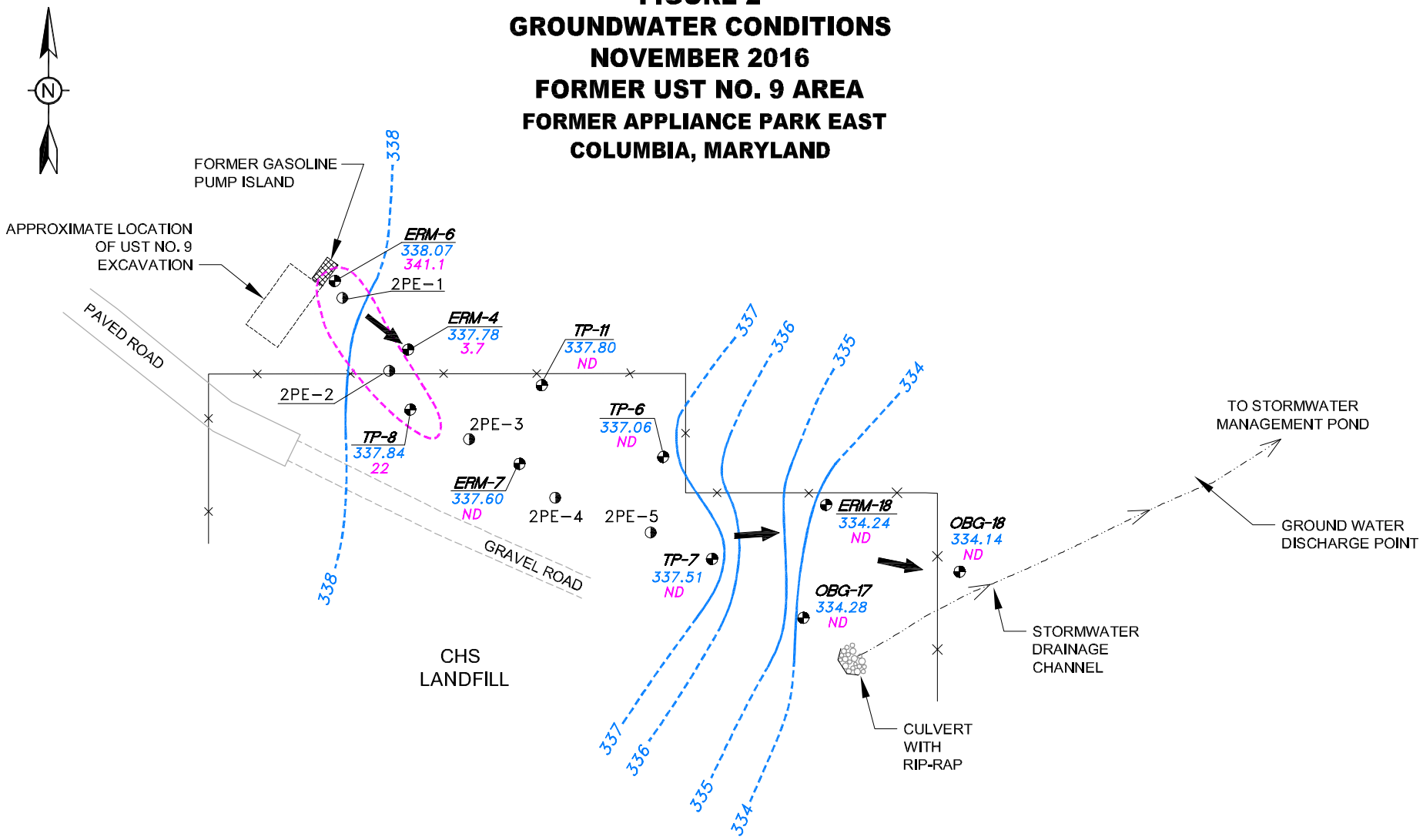
BASE MAP SOURCE:

ERM, INC., DECEMBER 2012 REPORT

TETRA TECH

2204275034A.DWG

FIGURE 2
GROUNDWATER CONDITIONS
NOVEMBER 2016
FORMER UST NO. 9 AREA
FORMER APPLIANCE PARK EAST
COLUMBIA, MARYLAND



LEGEND

2PE-1	2-PHASE WELL LOCATION
ERM-4	POST-TERMINATION MONITORING WELL LOCATION
	FENCE
338.07	GROUNDWATER ELEVATION (FEET)
338	GROUNDWATER ELEVATION CONTOUR (FEET) (DASHED WHERE INFERRED)
	GROUNDWATER FLOW DIRECTION
22	TOTAL BTEX CONCENTRATION (ug/L) NOVEMBER 2016
	APPROXIMATE TOTAL BTEX 5.0 ug/L
ND	NON-DETECT

0 100 200

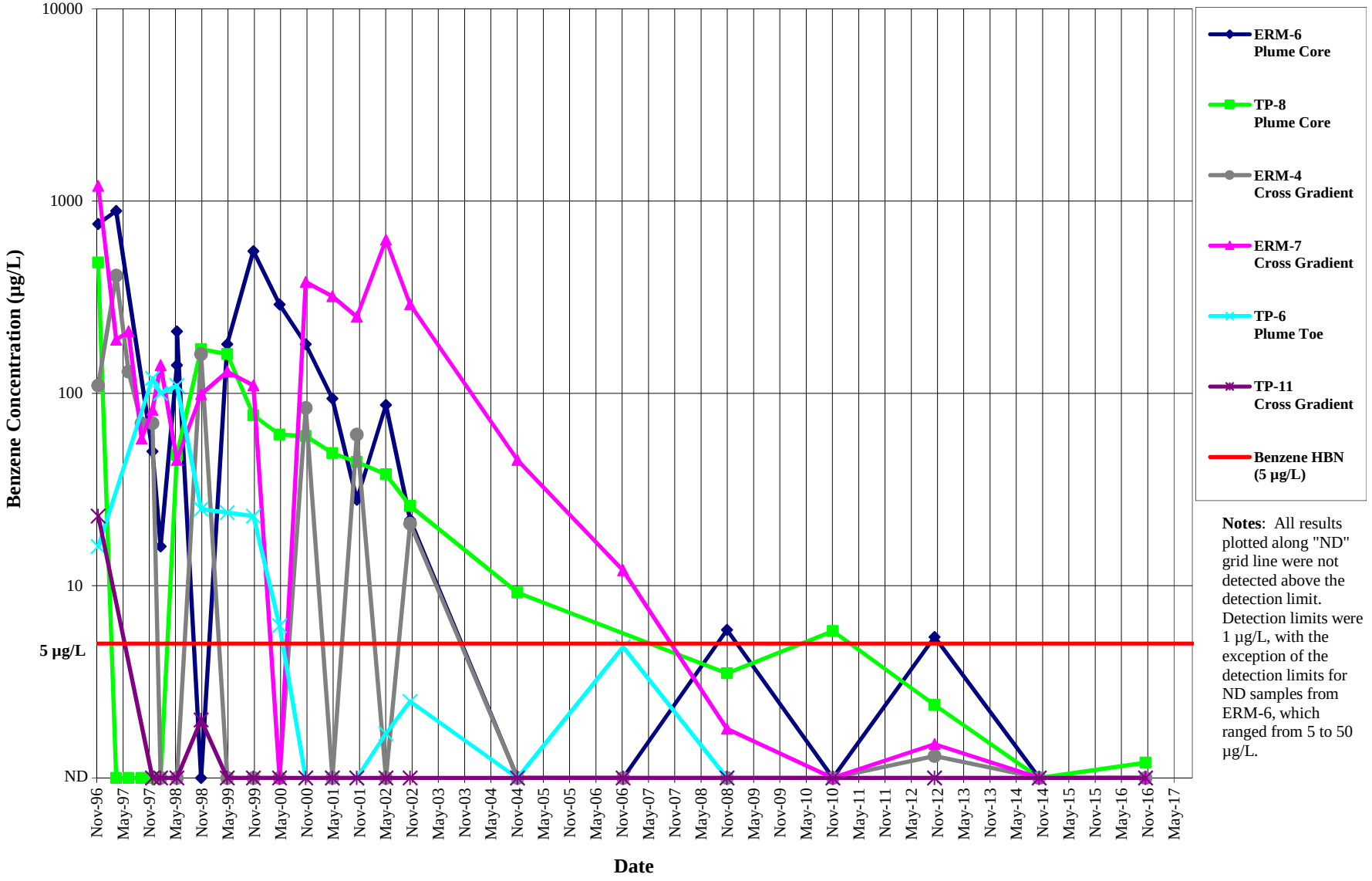
SCALE IN FEET

BASE MAP SOURCE:

ERM, INC., DECEMBER 2012 REPORT

TETRA TECH

Figure 3
Benzene Concentrations
UST No. 9
Former Appliance Park East Facility
Columbia, Maryland



Notes: All results plotted along "ND" grid line were not detected above the detection limit. Detection limits were 1 µg/L, with the exception of the detection limits for ND samples from ERM-6, which ranged from 5 to 50 µg/L.

Table 1
Summary of Ground Water Elevations in Monitoring Wells at UST No. 9
Former Appliance Park East Facility, Columbia, Maryland
November 2016

Well ID	Reference Elevation (feet msl)	Re-Survey Reference Elevation [(a), (b)] (feet msl)	10/23/2012		10/22/2014 [(c)]		11/1/2016	
			Depth to Ground Water (feet bre)	Ground Water Elevation (feet msl)	Depth to Ground Water (feet bre)	Ground Water Elevation (feet msl)	Depth to Ground Water (feet bre)	Ground Water Elevation (feet msl)
ERM-4	359.96	--	22.67	337.29	21.75	338.21	22.18	337.78
ERM-6	360.62	--	23.06	337.56	21.15	339.47	22.55	338.07
ERM-7	366.30	--	29.17	337.13	28.26	338.04	28.70	337.60
ERM-18	351.10	--	17.40	333.70	16.30	334.80	16.86	334.24
TP-6	359.18	--	22.56	336.62	21.65	337.53	22.12	337.06
TP-7 [(a)]	360.60	360.83	23.47	337.36	22.81	338.02	23.32	337.51
TP-8 [(b)]	362.14	361.82	24.48	337.34	23.54	338.28	23.98	337.84
TP-11	364.51	--	27.31	337.20	26.40	338.11	26.71	337.80
OBG-17	351.96	--	18.23	333.73	17.16	334.80	17.68	334.28
OBG-18	349.14	--	15.96	333.18	14.74	334.40	15.00	334.14

Notes:
feet msl - feet above mean sea level
feet bre - feet below reference elevation
(a) The stickup for TP-7 was damaged during site maintenance. It has been repaired and re-surveyed. The correct survey elevation is 360.83 feet msl as of October 2000.
(b) The stickup for TP-8 was damaged during site maintenance in October 2006. It was been repaired and re-surveyed in February 2007. The elevation is 361.82 feet msl.
(c) ERM-4 could not be gauged on 10/22/2014 as the manhole cover was under 6 inches of rainwater. The well was gauged on 10/30/2014.
NM - Not Measured

Table 2
Summary of Analytical Results for Ground Water Samples at UST No. 9
Former Appliance Park East Facility, Columbia, Maryland
November 2016

Well ID	ERM-4	ERM-6	ERM-7	ERM-18	TP-6	TP-7	TP-8	TP-11	OBG-17	OBG-18
Analytes (ug/L)	**11/1/16**	**11/1/16**	**11/1/16**	**11/1/16**	**11/1/16**	**11/1/16**	**11/1/16**	**11/1/16**	**11/1/16**	**11/1/16**
Benzene	<1	<1	<1	<1	<1	<1<1	**1.2**	<1	<1	<1
Toluene	<1	**1.1**	<1	<1	<1	<1/<1	**2.4**	<1	<1	<1
Ethylbenzene	<1	**120**	<1	<1	<1	<1/<1	<3	<1	<1	<1
Xylene	**3.7**	**220**	<3	<3	<3	<3/<3	**18.4**	<3	<3	<3
MTBE	<1	<1	<1	<1	<1	<1/<1	<1	<1	<1	<1
Field Measurements										
pH (standard units)	5.38	6.11	5.18	7.14	6.06	6.22	5.78	5.13	7.45	7.5
Conductivity*	223	333	169	230	490	80	249	812	790	200
Temperature (Celsius)	14.73	16.21	14.23	15.5	13.9	14.9	13.69	13.6	15.8	16.4

Notes:
ug/L - micrograms per liter
MTBE - Methyl tertiary-butyl ether
* micromhos per second
< signifies not detected at the detection limit
(a) TP-170 is a blind field duplicate of TP-7
MCLs - Benzene 5 ug/L; Ethylbenzene 700 ug/L; Toluene 1,000 ug/L; Xylenes 10,000 ug/L.
Analyses performed by Pace Analytical Services, Inc. by EPA Method SW 846-8260 starting in 2014. Analyses prior to 2014 performed by Lancaster Laboratories, Inc. using EPA Method SW 846-8021B.
ERM-4 sampled on 10/30/14 and not on10/22/14 when the other UST-9 monitoring wells were sampled due to its manhole cover being under 6 inches of rainwater on 10/22/14.

ATTACHMENT 2

To Semi-Annual Project Progress Report
RCRA Corrective Action Permit
No. MDD046279311

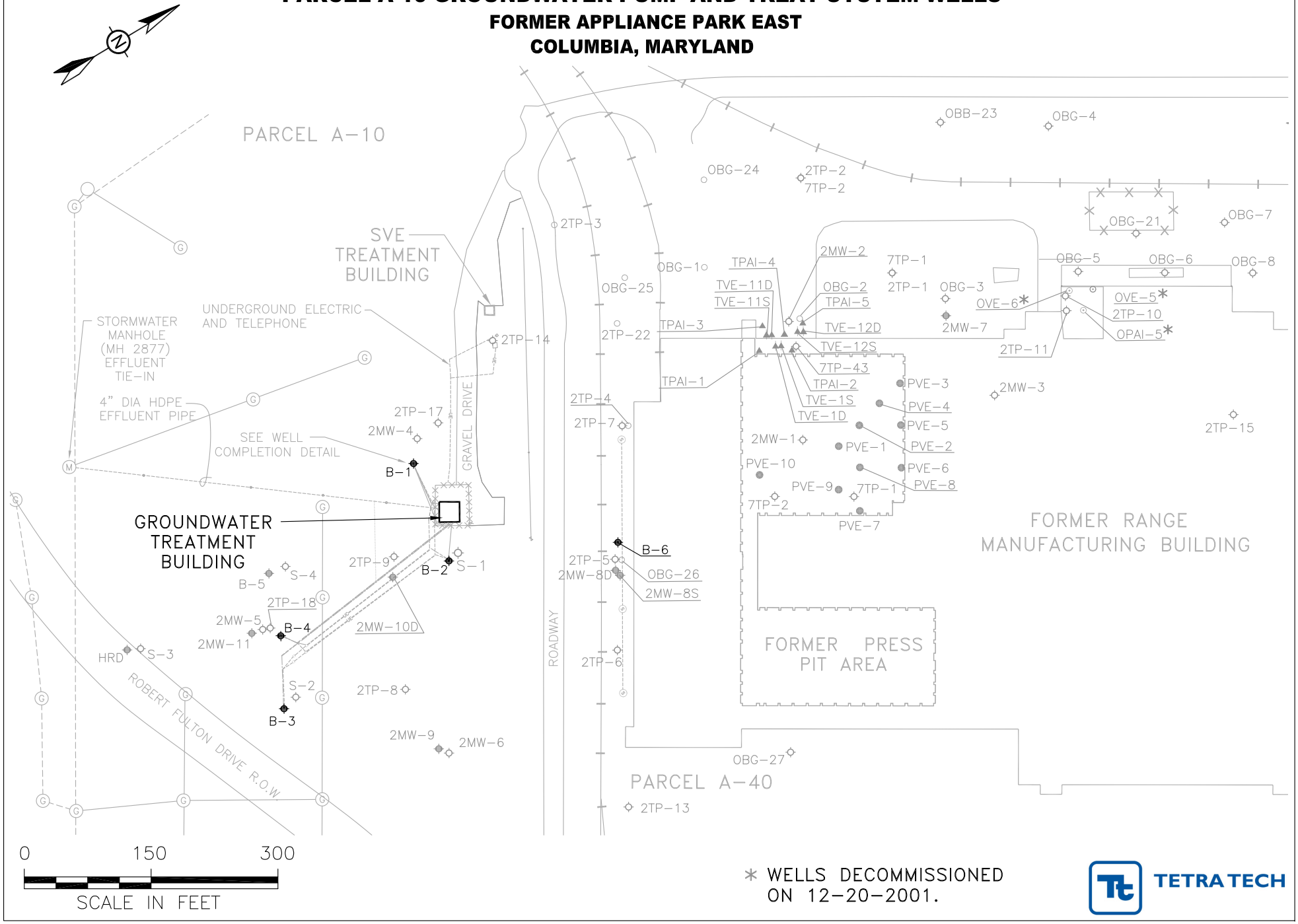
General Electric Co.
Former Appliance Park East Facility
Columbia, MD

Period 1 July 2017 to 30 December 2017

Findings Summary for Groundwater for RFI Units 2 and 7

2204275008A.DWG

FIGURE 1
PARCEL A-10 GROUNDWATER PUMP AND TREAT SYSTEM WELLS
FORMER APPLIANCE PARK EAST
COLUMBIA, MARYLAND



* WELLS DECOMMISSIONED ON 12-20-2001.

TETRA TECH

Figure 2
Groundwater Pump-and-Treat System Recovery
Former Appliance Park East Facility, Columbia, Maryland

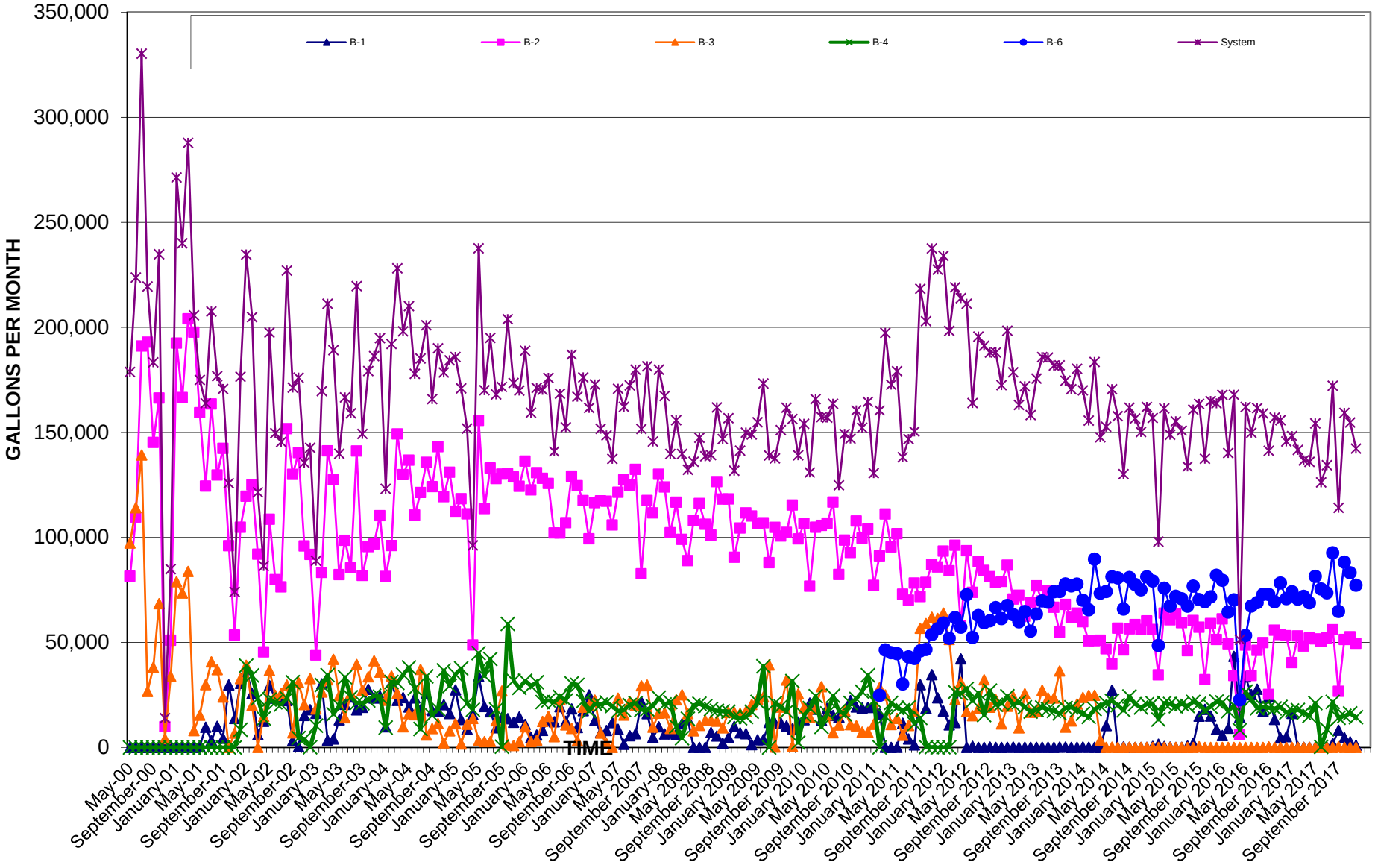


Figure 3
Groundwater Pump-and-Treat System Recovery - Trailing 12-Month Total Gallons
Former Appliance Park East Facility, Columbia, Maryland

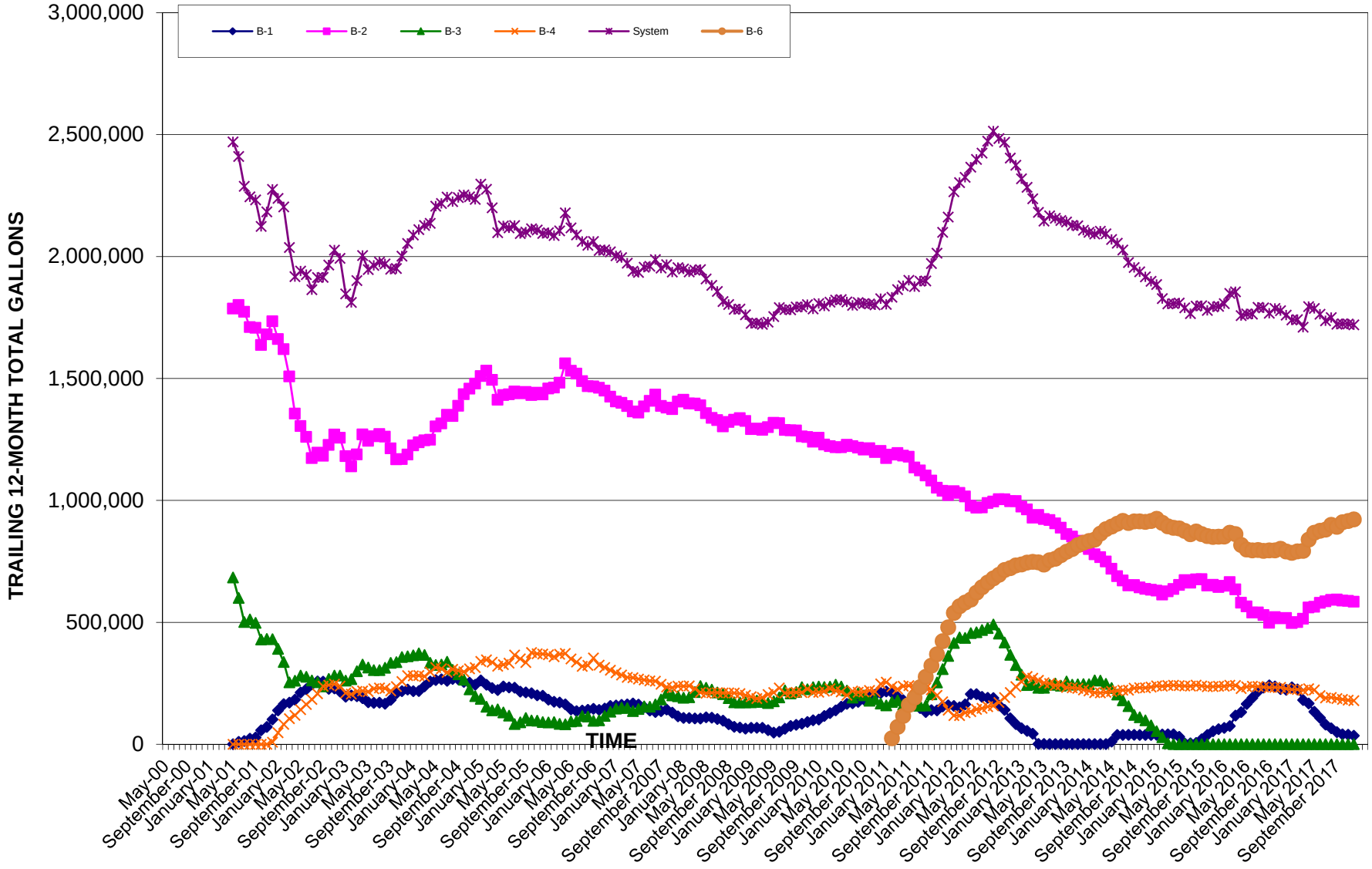
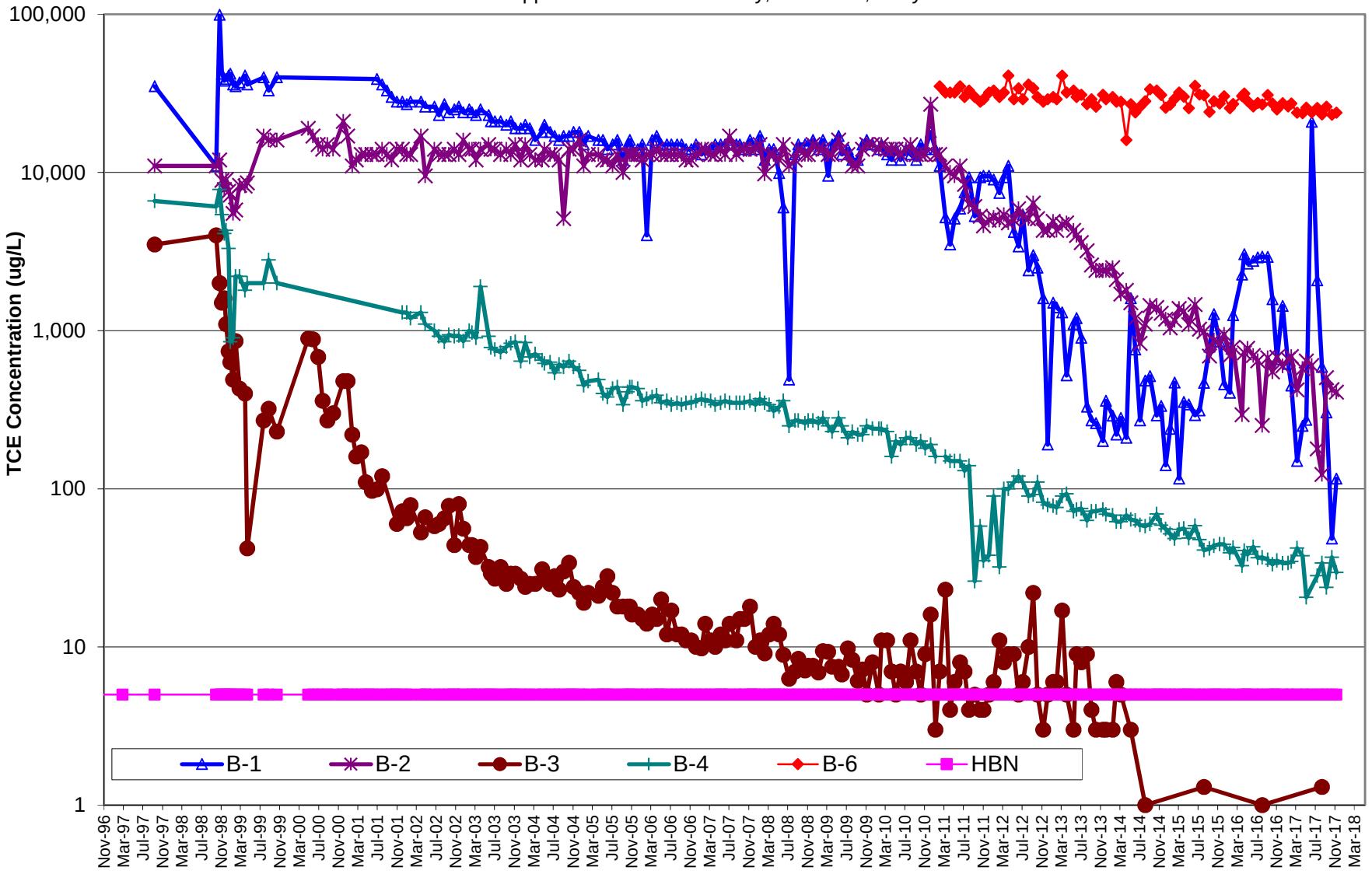


Figure 4
TCE Concentrations in Groundwater Recovery Wells
Former Appliance Park East Facility, Columbia, Maryland



HBN: Permit-Specified Health Based Number

FIGURE 5
GROUNDWATER MONITORING WELLS
PARCELS A-10 AND A-40
FORMER APPLIANCE PARK EAST
COLUMBIA, MARYLAND

Parcel A-43

Parcel A-10

Parcel A-40

Asphalt Road

2TP-16 S.D. 2MH-2 S.D. 2MH-3 2MH-19 Fire 2MH-10 OBG-23 OBG-4 2MH-12 2MH-20 OBG-9 2MH-14 OBG-54 OBG-55 SD1

OBG-24 2TP-2 2TP-3 2MH-4 OBG-1 OBG-25 2MH-5 2TP-22 2TP-14 2TP-1 S.D. Fire

SVE TREATMENT BUILDING

ODSR AREA OBG-7 2MH-13

2MW-13 2MW-12 TPAI-4 ETT AREA TPAI-3 TVE-11S TPAI-5 TVE-12D TVE-12S 7TP-43 TPAI-1 TVE-11D TPAI-2 TVE-1S TVE-1D

OVE-6 2TP-10 2TP-11 OVE-5 OPAI-5 ODSR

PRESS PIT AREA (WEST WING)

RANGE BUILDING

2TP-17 2MW-4 B-1 PARCEL A-10 PUMP AND TREAT REMEDIATION COMPOUND 2TP-7 2MH-17 2TP-4 7TP-2 7TP-1 2MH-6 2TP-5 OBG-26 2MW-8D 2MW-8S 2TP-6

2TP-9 S-1 B-2 2MW-10D S-4 B-5 2MW-5 2TP-18 B-4 2MW-11 HRD-1 S-3 S-2 B-3 2TP-8 2MH-7 2MW-9 2MW-6 2MH-18 2TP-13

PRESS PIT AREA (EAST WING)

NEW ADDITION

ROBERT FULTON DRIVE

S.D. Fire

LEGEND

EXISTING FEATURES

- SAPROLITE MONITORING WELL LOCATION
- BEDROCK MONITORING WELL LOCATION
- UTILITY BACKFILL MONITORING WELL LOCATION
- COASTAL PLAIN/PERCHED MONITORING WELL LOCATION
- STORM DRAIN MANHOLE
- ODSR FORMER OIL DRUM STORAGE ROOM
- UTILITY LINES - FIRE AND STORM DRAIN
- UTILITY LINES - ABANDONED
- ETT FORMER EXTERIOR TCE TANK AREA
- TVE, OVE - VAPOR EXTRACTION WELLS
- TPAI, OPAI - AIR INLET WELLS
- MONITORING WELLS TO BE SAMPLED ANNUALLY AND WATER LEVELS MONITORED SEMI-ANNUALLY
- MONITORING WELLS TO BE SAMPLED SEMI-ANNUALLY AND WATER LEVELS MONITORED SEMI-ANNUALLY
- MONITORING WELLS TO BE SAMPLED BIENNALLY AND WATER LEVELS MONITORED SEMI-ANNUALLY
- 2TP-17 IS MONITORED ONLY FOR WATER LEVELS SEMI-ANNUALLY

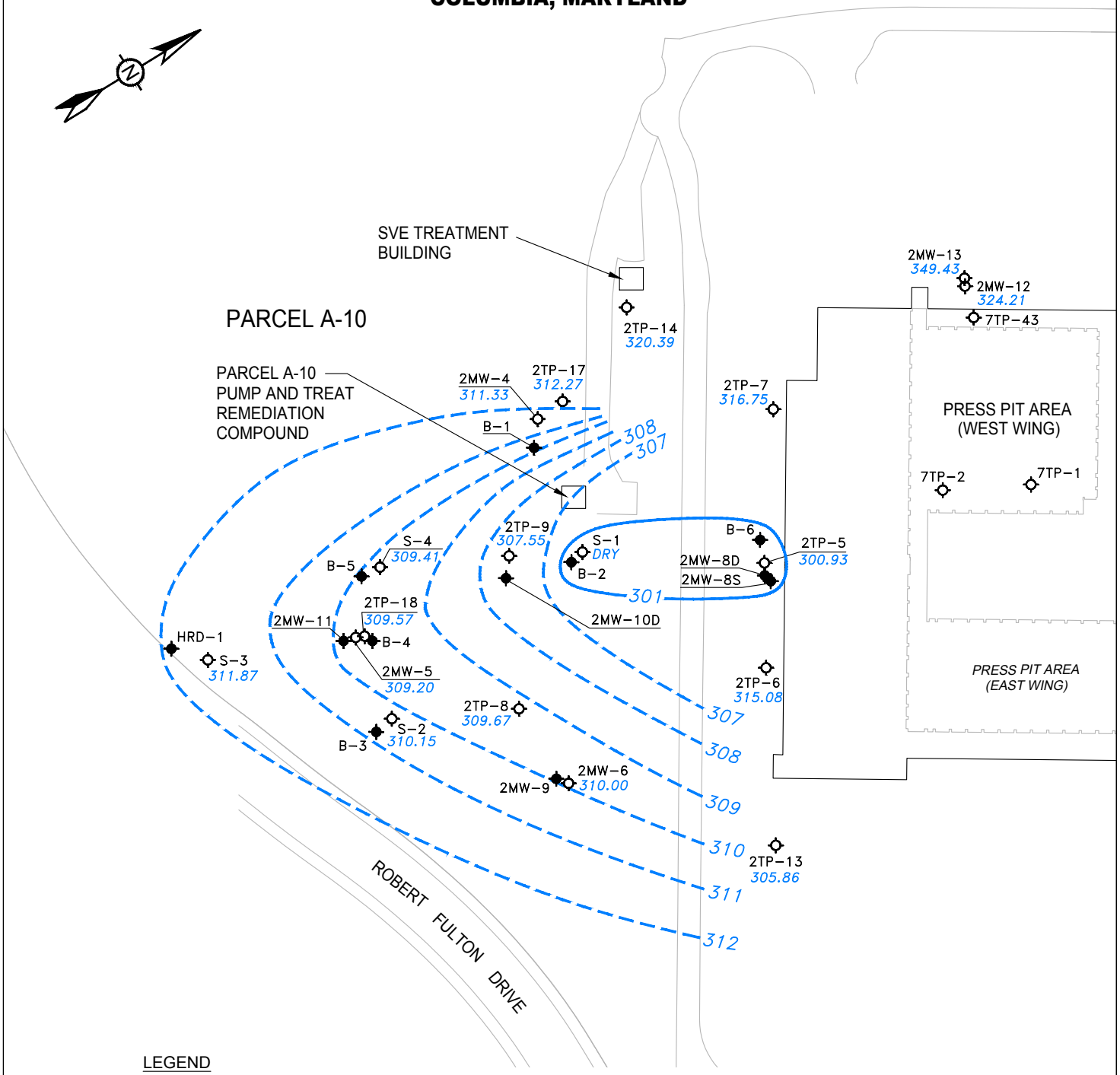
0 150 300

SCALE IN FEET

TETRA TECH

220427S0144.DWG

FIGURE 6
HYDRAULIC HEADS FOR PARCEL A-10 SAPROLITE WELLS
OCTOBER 27, 2017
FORMER APPLIANCE PARK EAST
COLUMBIA, MARYLAND



LEGEND

- SAPROLITE MONITORING WELL LOCATION
- BEDROCK MONITORING WELL LOCATION
- 311.87 GROUNDWATER ELEVATION (FEET)
- 309 GROUNDWATER ELEVATION CONTOUR (FEET) (DASHED WHERE INFERRED)

NOTES:

1. 2MW-13 IS A COASTAL PLAIN/PERCHED GROUNDWATER MONITORING WELL.
2. GROUNDWATER ELEVATIONS FOR 2MW-5 AND 2TP-13 WERE NOT USED TO DEVELOP GROUNDWATER ELEVATION CONTOURS.

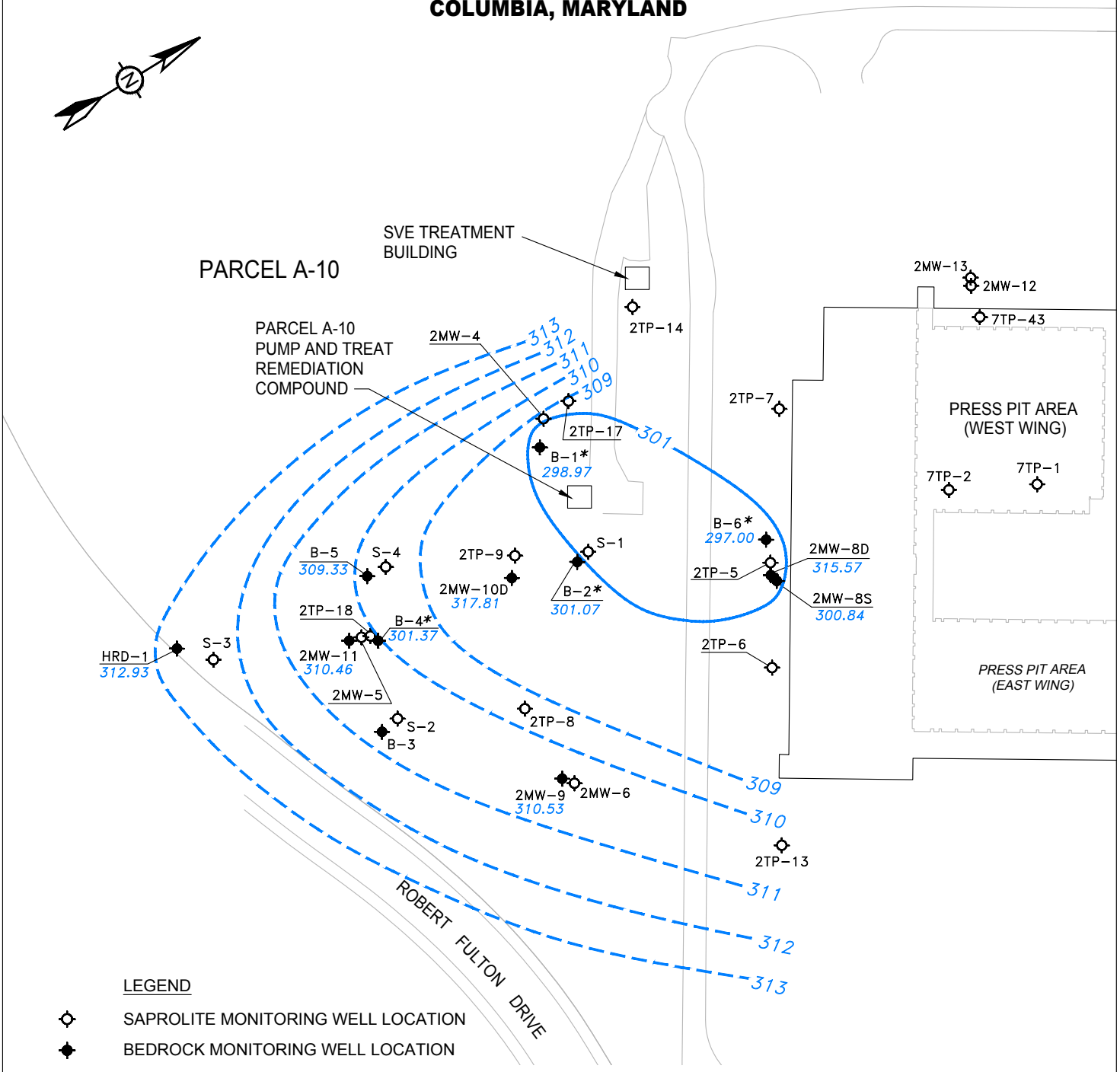
0 150 300

SCALE IN FEET

TETRA TECH

2204275049A.DWG

FIGURE 7
HYDRAULIC HEADS FOR PARCEL A-10 BEDROCK WELLS
OCTOBER 27, 2017
FORMER APPLIANCE PARK EAST
COLUMBIA, MARYLAND



LEGEND

- SAPROLITE MONITORING WELL LOCATION
- BEDROCK MONITORING WELL LOCATION
- 312.93 GROUNDWATER ELEVATION (FEET)
- 309 GROUNDWATER ELEVATION CONTOUR (FEET) (DASHED WHERE INFERRED)
- * HYDRAULIC HEAD IS THE LOWER SET POINT FOR THE EXTRACTION WELLS
- NA GROUNDWATER ELEVATION NOT AVAILABLE; SEE NOTE 3

NOTES:

1. 2MW-13 IS A COASTAL PLAIN/PERCHED GROUNDWATER MONITORING WELL.
2. GROUNDWATER ELEVATIONS FOR 2MW-8D AND 2MW-10D WERE NOT USED TO DEVELOP GROUNDWATER ELEVATION CONTOURS.
3. B-3 WAS TURNED OFF DURING THE WATER LEVEL GAUGING EVENT, AND A WATER LEVEL WAS NOT COLLECTED; THEREFORE A GROUNDWATER ELEVATION FOR B-3 IS NOT AVAILABLE.

0 150 300

SCALE IN FEET

TETRA TECH

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FIGURE 8
APPROXIMATE EXTENT OF TCE IN GROUND WATER FROM NOVEMBER 2017 SAMPLING EVENT
FORMER APPLIANCE PARK EAST
COLUMBIA, MARYLAND

Parcel A-43

Parcel A-10

Parcel A-40

ASPHALT ROAD

OBG-23
OBG-4
OBG-9
OBG-54
OBG-55
OBG-24
2TP-2
2TP-16
2TP-3
OBG-1
OBG-25
2TP-22
OBG-7
OGB-21
OGB-10
OGB-5
OGB-26
OGB-8
2TP-10 NR
2TP-11 NR
2MW-13 NR
2MW-12 NR
2TP-1
OBG-3
2MW-7
OBG-2
ODSR
2MW-3
2TP-15
7TP-43
PRESS PIT AREA (WEST WING)
2MW-1
7TP-2
7TP-1 NOT SAMPLED (WELL DRY)
RANGE BUILDING
NEW ADDITION
PRESS PIT AREA (EAST WING)
OGB-27
2TP-12
SVE TREATMENT BUILDING
2TP-14 NR 29
PARCEL A-10 PUMP AND TREAT REMEDIATION COMPOUND
2TP-17
2MW-4 22.8 <1.0
B-1
2TP-7 NR 16,000
2TP-4
2TP-9 83.8 2,200
S-4 NR 1,000
S-1 21,000
B-2
B-5 5.1
2MW-10D NR* 1.4
HRD-1 <1.0 2.9
2MW-5 10.7 3,300
B-4
2TP-18 <1.0
S-3 <1.0 170
2MW-11 3.5 3,200
B-3
S-2 <1.0 290
2TP-8 NR <1.0
2MW-9 <1.0 <1.0
2MW-6 <1.0 <1.0
2TP-13 NR 10
B-6
2TP-5 NR* 41,000
OBG-26
2MW-8D NR* 280
2MW-8S 9,150 63,000
2TP-6 NR 120
ROBERT FULTON DRIVE
DM-1

0 150 300
SCALE IN FEET

LEGEND

EXISTING FEATURES

- SAPROLITE MONITORING WELL LOCATION
- BEDROCK MONITORING WELL LOCATION
- COASTAL PLAIN/PERCHED MONITORING WELL LOCATION
- B-1 BEDROCK EXTRACTION WELL LOCATION
- OGB-27 MONITORING WELL PROPOSED FOR ABANDONMENT / NOT LOCATED
- OGB-4 MONITORING WELL ABANDONED AUGUST 2014
- 80.3 TCE CONCENTRATION (μg/L) NOVEMBER 10, 2017
- 2,200 TCE CONCENTRATION (μg/L) JUNE 22, 2000
- <1.0 NOT DETECTED ABOVE LIMIT OF QUANTITATION (5.0)
- NR NOT REQUIRED TO BE SAMPLED FOR THIS SAMPLING EVENT
- * WELL ON A BIENNIAL SAMPLING FREQUENCY (PREVIOUSLY SAMPLED IN NOVEMBER 2016)
- ESTIMATED 5 μg/L LIMIT OF TCE IN SAPROLITE / SHALLOW BEDROCK GROUND WATER
- FRACTURE TRACE

TETRA TECH

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Figure 9
TCE Concentrations within Plume Core
Former Appliance Park East Facility
Columbia, Maryland

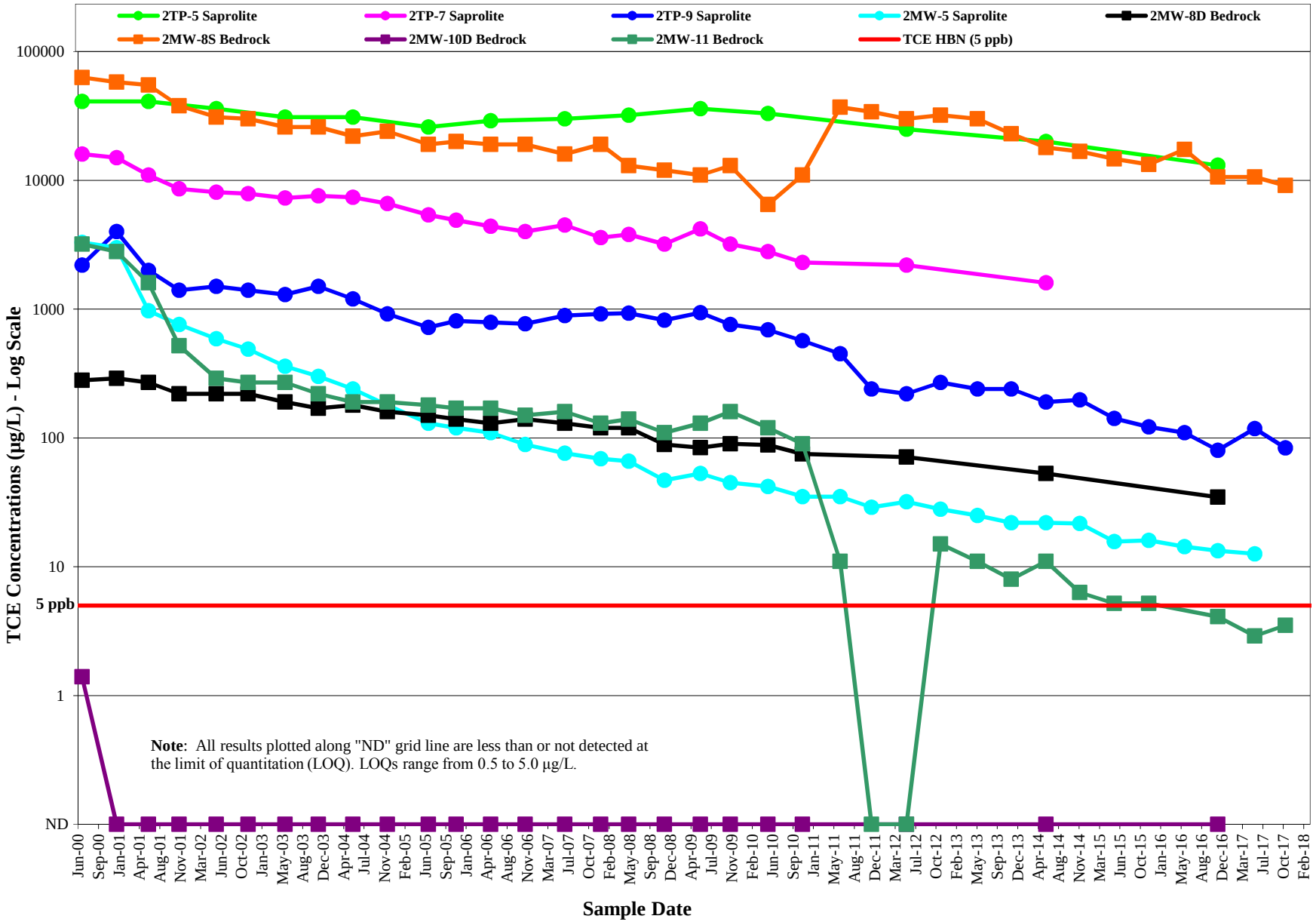

Figure 10
TCE Concentrations at Plume Toe and Cross-Gradient
Former Appliance Park East Facility
Columbia, Maryland

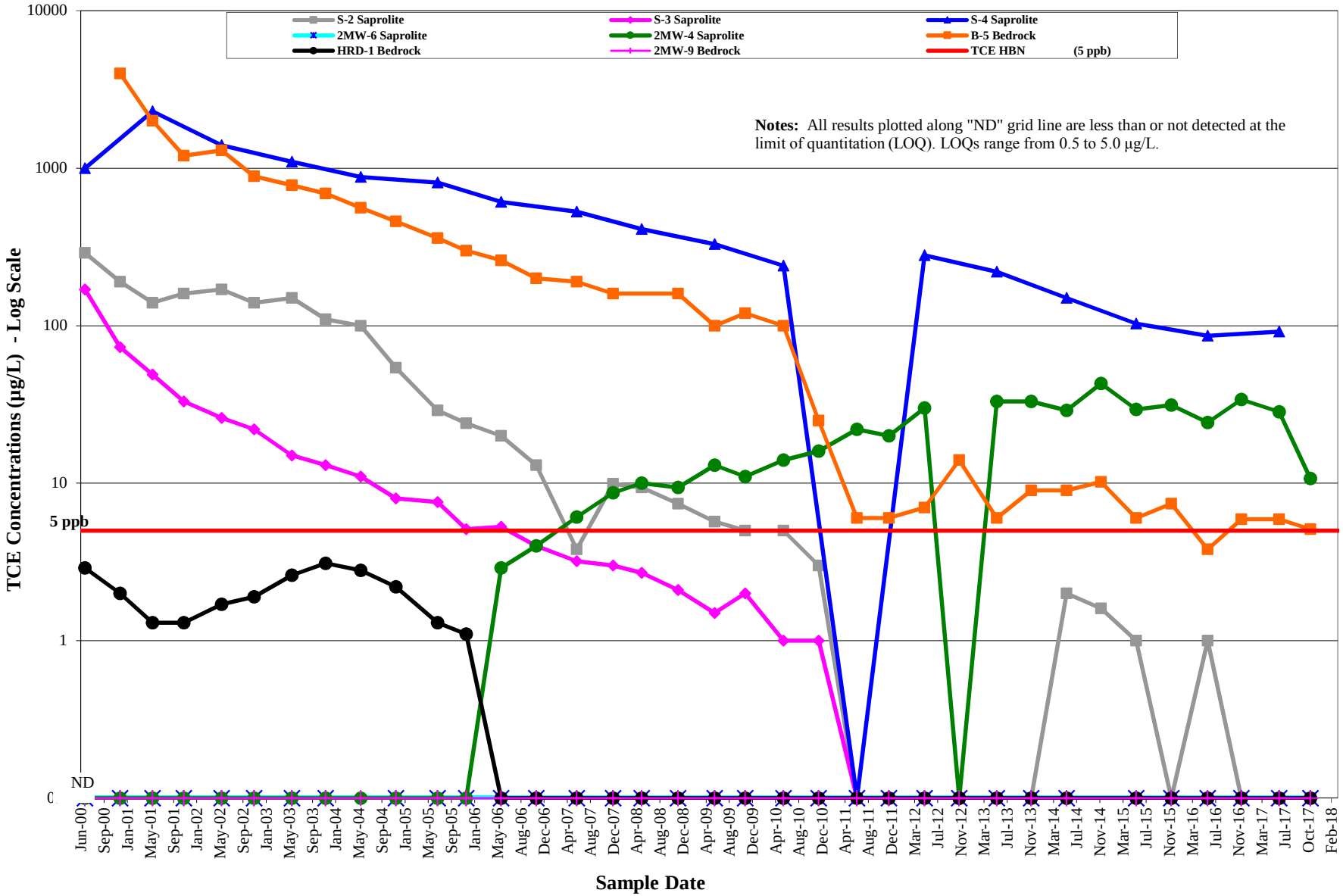

TABLE 1
Groundwater Elevations for Monitoring Wells at CMS Units 2 and 7
October 27, 2017
Former Appliance Park East Facility, Columbia, Maryland

Well ID	Interpreted Lithology	Reference Point Elevation (ft > MSL)	Well Depth (ft BGS)	Well Screen Length (ft)	Well Screen Top (ft BGS)	Well Screen Bottom (ft BGS)	Screen Top Elevation (ft > MSL)	Screen Bottom Elevation (ft > MSL)	Sampling Frequency**	Water Level Monitoring Frequency	Depth to Water on October 27, 2017 (ft BRE)	Groundwater Elevation on October 27, 2017 (ft > MSL)
SAPROLITE / WATER TABLE												
7TP-1	Saprolite	345.76	24	20	4	24	342	322	Annually	Semi-Annually	DRY	DRY
2TP-5	Saprolite	358.02	63	15	48	63	308.38	293.38	Biennially	Semi-Annually	57.09	300.93
2TP-6	Saprolite	358.79	50	15	35	50	321.41	306.41	Annually	Semi-Annually	43.71	315.08
2TP-7	Saprolite	358.76	59	15	44	59	313.16	298.16	Biennially	Semi-Annually	42.01	316.75
2TP-8	Saprolite	348.67	62	15	47	62	299.11	284.11	Annually	Semi-Annually	39.00	309.67
2TP-9	Saprolite	348.85	55	15	40	55	305.95	290.95	Semi-Annually	Semi-Annually	41.30	307.55
2TP-10	Coastal Plain & Saprolite	358.95	23	10	13	23	345	335	Annually	Semi-Annually	18.25	340.70
2TP-11	Coastal Plain & Saprolite	357.57	30	10	20	30	338	328	Annually	Semi-Annually	18.68	338.89
2TP-13	Saprolite	362.11	59	15	44	59	315.58	300.58	Annually	Semi-Annually	56.25	305.86
2TP-14	Saprolite	348.85	48	15	33	48	314.77	299.77	Annually	Semi-Annually	28.46	320.39
2TP-17	Saprolite	349.29	47	15	32	47	314.8	299.8	None	Semi-Annually	37.02	312.27
2TP-18	Saprolite	346.42	43	15	28	43	316.02	301.02	None	Semi-Annually	36.85	309.57
2MW-4	Saprolite	348.8	46	20	26	46	320.31	300.31	Semi-Annually	Semi-Annually	37.47	311.33
2MW-5	Saprolite	346.06	68	15	53	68	290.87	275.87	Semi-Annually	Semi-Annually	36.86	309.20
2MW-6	Saprolite	350.13	44	15	29	44	318.6	303.6	Semi-Annually	Semi-Annually	40.13	310.00
2MW-12	Saprolite	353.61	36	15.0	21.0	36.0	332.57	317.57	Annually	Semi-Annually	29.40	324.21
2MW-13	Coastal Plain/Perched	353.42	11	8	3	11	350.69	342.69	Annually	Semi-Annually	3.99	349.43
S-1	Saprolite	349.94	41	30	11	41	336.9	306.9	None	Semi-Annually	DRY	DRY
S-2	Saprolite	346.89	50	30	20	50	325.06	295.06	Semi-Annually	Semi-Annually	36.74	310.15
S-3	Saprolite	347.69	50	30	20	50	325.78	295.78	Semi-Annually	Semi-Annually	35.82	311.87
S-4	Saprolite	346.14	50	30	19	49	325.23	295.23	Annually	Semi-Annually	36.73	309.41
BEDROCK												
2MW-8S	Bedrock	359.24	128	20	108	128	248.8	228.8	Semi-Annually	Semi-Annually	58.40	300.84
2MW-9	Bedrock	349.45	93	20	73	93	274.47	254.47	Semi-Annually	Semi-Annually	38.92	310.53
2MW-11	Bedrock	345.54	120	20	100	120	243.61	223.61	Semi-Annually	Semi-Annually	35.08	310.46
2MW-8D	Bedrock	359.09	208	15	193	208	163.43	148.43	Biennially	Semi-Annually	43.58	315.51
2MW-10D	Bedrock	348.56	200	24	176	200	170.08	146.08	Biennially	Semi-Annually	30.75	317.81
HRD-1	Bedrock	341.11	140	20	120	140	221.11	201.11	Semi-Annually	Semi-Annually	28.18	312.93
B-5	Bedrock	345.99	140	86	54	140	290.08	204.08	Semi-Annually	Semi-Annually	36.66	309.33

NOTES:
BGS = below ground surface
BRE = below reference elevation
ft = feet
> MSL = above mean sea level
** Semi-annual frequency: May/June and November/December. Annual frequency: May/June. Biennial sampling: May/June of even years starting in 2012.
The low set points for the pump-and-treat system recovery (extraction) wells are: B-1: 298.97 ft MSL; B-2: 301.07 ft MSL; B-3: 306.43 ft MSL; B-4: 301.37 ft MSL; and B-6: 297.00 ft MSL.

TABLE 2
VOC Detections for CMS Units 2 and 7 Groundwater Monitoring
November 10 2017
Former Appliance Park East Facility, Columbia, Maryland

Well - Sample ID	Trichloroethene (ug/L)	Cis-1,2-dichloroethene (ug/L)	Trans-1,2-dichloroethene (ug/L)	1,1-Dichloroethane (ug/L)	1,1-Dichloroethene (ug/L)	Tetrachloroethene (ug/L)	Chloroform (ug/L)	1,1,2-Trichloroethane (ug/L)	Vinyl Chloride (ug/L)
Saprolite / Water Table									
7TP-1	NR	NR	NR	NR	NR	NR	NR	NR	NR
2TP-5*	NR	NR	NR	NR	NR	NR	NR	NR	NR
2TP-6	NR	NR	NR	NR	NR	NR	NR	NR	NR
2TP-7*	NR	NR	NR	NR	NR	NR	NR	NR	NR
2TP-8	NR	NR	NR	NR	NR	NR	NR	NR	NR
2TP-9	**83.8**	**213**	**4.5**	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
2TP-10[CS]	NR	NR	NR	NR	NR	NR	NR	NR	NR
2TP-11[CS]	NR	NR	NR	NR	NR	NR	NR	NR	NR
2TP-13	NR	NR	NR	NR	NR	NR	NR	NR	NR
2TP-14	NR	NR	NR	NR	NR	NR	NR	NR	NR
2MW-4	**22.8**	**2.9**	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
2MW-5	**10.7**	**5.9**	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
2MW-6	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
2MW-12	NR	NR	NR	NR	NR	NR	NR	NR	NR
2MW-13[CP]	NR	NR	NR	NR	NR	NR	NR	NR	NR
S-2	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
S-3	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
S-4	NR	NR	NR	NR	NR	NR	NR	NR	NR
Bedrock									
2MW-8S	**9,150 / 8,040**	**1,060 / 961**	**8.9 / 8.5**	**3.4 / 2.3**	**6.5 / 6.3**	**1.1 / 1.1**	<1.0 / <1.0	<1.0 / <1.0	**2.1 / 2.3**
2MW-9	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
2MW-11	**3.5**	**29.6**	**1.3**	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
2MW-8D*	NR	NR	NR	NR	NR	NR	NR	NR	<1.0
2MW-10D*	NR	NR	NR	NR	NR	NR	NR	NR	<1.0
HRD-1	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
B-5	**5.1**	**25.9**	**1.3**	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Field Blank	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0

NOTES:

ug/L = Micrograms per liter

/ = Duplicate samples

NR = well not sampled - not required for this sampling event

NSD = Not sampled due to well being dry or had insufficient volume of water

Starting in November 2009 samples analyzed using EPA Method 8260

MW-12, MW-13, 2TP-10, and 2TP-11 added to semi-annual sampling in June 2011

< = result is less than or not detected at this limit of quantitation

[CS] Costal Plain & Saprolite

[CP] Coastal Plain/Perched Well

* Well on a biennial sampling frequency.

TABLE 3
Historical TCE Analytical Results for CMS Units 2 and 7 Groundwater Monitoring
Former Appliance Park East Facility, Columbia, Maryland

Well - Sample ID	Well Depth (ft BGS)	Well Screen (ft BGS) Top (ft BGS)	Well Screen (ft BGS) Bottom (ft BGS)	5/16/2008 TCE (µg/L)	11/20/2008 TCE (µg/L)	5/29/2009 TCE (µg/L)	11/3/2009 TCE (µg/L)	5/21/2010 TCE (µg/L)	11/19/2010 TCE (µg/L)	6/6/2011 TCE (µg/L)	11/18/2011 TCE (µg/L)	5/21/2012 TCE (µg/L)	11/16/2012 TCE (µg/L)	5/30/2013 TCE (µg/L)	11/25/2013 TCE (µg/L)
Saprolite / Water Table															
7TP-1	24	4.0	24.0	NC	NC	NC	NC	NC	NC	NSD	NR	NSD	NR	NSD	NR
2TP-5*	63.0	48.0	63.0	32,000	NR	36,000	NR	33,000	NR	NR	NR	25,000	NR	NR	NR
2TP-6	50.0	35.0	50.0	NSD	NSD	NSD	NSD	NSD	<1.0	NSD	NR	NSD	NR	NSD	NR
2TP-7*	59.0	44.0	59.0	3,800	3,200	4,200	3,200	2,800	2,300	NR	NR	2,200	NR	NR	NR
2TP-8	62.0	47.0	62.0	<2.0	<0.5	<0.5	<1.0	<1.0	<1.0	<5.0	NR	<5.0	NR	<5.0	NR
2TP-9	55.0	40.0	55.0	930	820	940	760	690	570	450	240	220	270	240	240
2TP-10[CS]	21.9	13.0	23.0	NC	NC	NC	NC	NC	NC	68,000	NR	58,000	NR	53,000	NR
2TP-11[CS]	30.0	19.2	30.0	NC	NC	NC	NC	NC	NC	5,400	NR	7,800	NR	6,400	NR
2TP-13	59.0	44.0	59.0	<2.0	0.7	0.5	<1.0	<1.0	<1.0	7.0	NR	10	NR	10	NR
2TP-14	58.0	43.0	58.0	4.4	3.6	3.1	2.0 J	3.0 J	4.0 J	<5.0	NR	<5.0	NR	<5.0	NR
2MW-4	46.0	26.0	46.0	10.0	9.4	13.0	11.0	14.0	16	22/22	20	30	<5.0	33	33
2MW-5	68.0	53.0	68.0	66	47	53	45	42	35	35	29	32	28	25	22
2MW-6	44.0	29.0	44.0	<2.0	<0.5	<0.5	<1.0	<1.0	<1.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
2MW-12	34.9	19.9	34.9	NC	NC	NC	NC	NC	NC	1,900	NR	2,000	NR	1,200	NR
2MW-13[CP]	11.0	3.0	11.0	NC	NC	NC	NC	NC	NC	21	NR	9	NR	13	NR
S-2	50.0	20.0	50.0	9	7	6	5.0 J	5.0 J	3.0 J	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
S-3	50.0	20.0	50.0	2.7	2.1	1.5	2.0 J	1.0 J	1.0 J	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
S-4	50.0	20.0	50.0	410	NR	330	NR	240	NR	<5.0	NR	280	NR	220	NR
Bedrock															
2MW-8S	128.0	108.0	128.0	13,000	12,000	11,000	13,000	6,500	11,000	37,000	34,000 / 33,000	29,000 / 30,000	30,000 / 32,000	28,000 / 30,000	23,000 / 23,000
2MW-9	93.0	73.0	93.0	<2.0	<0.5	<0.5	<1.0	<1.0	<1.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
2MW-11	120.0	100.0	120.0	140	110	130	160	120	90	11	<5.0	<5.0	15	11	8
2MW-8D*	208.0	193.0	208.0	120	89	84	90	88	75	NR	NR	71	NR	NR	NR
2MW-10D*	200.0	176.0	200.0	<2.0	<0.5	<0.5	<1.0	<1.0	<1.0	NR	NR	<5.0	NR	NR	NR
HRD-1	140.0	120.0	140.0	<2.0	<0.5	<0.5	<1.0	<1.0	<1.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
B-5	140.0	54.0	140.0	NS	160 E	100	120	100	25	6	6	7	14	6	9
Field Blank	-	-	-	<2.0	<0.5	<0.5	<1.0	<1.0	<1.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0

NOTES:

ug/L = Micrograms per liter
BGS = Below ground surface
[CS] Costal Plain & Saprolite
[CP] Coastal Plain/Perched Well
/ = Duplicate samples
TCE = Trichloroethene
NC = Not collected
NA = Not avaliable

NR = Not required for this sampling event
NS = Not sampled unable to retrieve passive bag sampler
NSD = Not sampled due to insufficient volume of water in well
< = result is less than or not detected at this limit of quantitation
MW-12, MW-13, 2TP-10, and 2TP-11 added to semi-annual sampling in June 2011
Starting in November 2009 samples analyzed using EPA Method 8260
* Well on biennial sampling frequency
Table presents concentrations from May 2008 to the present

TABLE 3
Historical TCE Analytical Results for CMS Units 2 and 7 Groundwater Monitoring
Former Appliance Park East Facility, Columbia, Maryland

Well - Sample ID	Well Depth (ft BGS)	Well Screen (ft BGS) Top (ft BGS)	Well Screen (ft BGS) Bottom (ft BGS)	5/27/2014 TCE (µg/L)	11/21/2014 TCE (µg/L)	5/22/2015 TCE (µg/L)	11/20/2015 TCE (µg/L)	5/27/2016 TCE (µg/L)	11/18/2016 TCE (µg/L)	6/2/2017 TCE (µg/L)	11/10/2017 TCE (µg/L)
Saprolite / Water Table											
7TP-1	24	4.0	24.0	NSD	NR	NSD	NR	NR	NR	Not sampled - well was dry	Not sampled - well was dry
2TP-5*	63.0	48.0	63.0	20,000	NR	NR	NR	NR	13,100	NR	NR
2TP-6	50.0	35.0	50.0	NSD	NR	<1.0	NR	NR	NR	1.2	NR
2TP-7*	59.0	44.0	59.0	1,600	NR	NR	NR	NR	956	NR	NR
2TP-8	62.0	47.0	62.0	<5.0	NR	<1.0	NR	NR	NR	<1.0	NR
2TP-9	55.0	40.0	55.0	190	198	142	122	122	80.3	118	83.8
2TP-10[CS]	21.9	13.0	23.0	54,000	NR	55,300	NR	NR	NR	78,500	NR
2TP-11[CS]	30.0	19.2	30.0	7,000	NR	7,240	NR	NR	NR	8,320	NR
2TP-13	59.0	44.0	59.0	9	NR	8.9	NR	NR	NR	8.1	NR
2TP-14	58.0	43.0	58.0	<5.0	NR	5.7	NR	NR	NR	3.1	NR
2MW-4	46.0	26.0	46.0	29	33	29.4	31.3	31.3	34.0	28.4	22.8
2MW-5	68.0	53.0	68.0	22	21.7	15.7	16	16	13.3	12.6	10.7
2MW-6	44.0	29.0	44.0	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
2MW-12	34.9	19.9	34.9	1,000	NR	292	NR	NR	NR	219	NR
2MW-13[CP]	11.0	3.0	11.0	11	NR	11.8	NR	NR	NR	10	NR
S-2	50.0	20.0	50.0	<5.0	1.6	1.0	<1.0	<1.0	<1.0	<1.0	<1.0
S-3	50.0	20.0	50.0	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
S-4	50.0	20.0	50.0	150	NR	103	NR	NR	NR	91.7	NR
Bedrock											
2MW-8S	128.0	108.0	128.0	18,000 / 18,000	14,700 / 16,800	14,700 / 13,600	13,300 / 13,300	13,300 / 13,300	10,600 / 11,500	10,600 / 9,160	9,150 / 8,040
2MW-9	93.0	73.0	93.0	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
2MW-11	120.0	100.0	120.0	11	6.3	5.2	5.2	5.2	4.1	2.9	3.5
2MW-8D*	208.0	193.0	208.0	53	NR	NR	NR	NR	34.7	NR	NR
2MW-10D*	200.0	176.0	200.0	<5.0	NR	NR	NR	NR	<1.0	NR	NR
HRD-1	140.0	120.0	140.0	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
B-5	140.0	54.0	140.0	9	10.2	6	7.4	7.4	5.9	5.9	5.1
Field Blank	-	-	-	<5.0	1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0

NOTES:

ug/L = Micrograms per liter
BGS = Below ground surface
[CS] Costal Plain & Saprolite
[CP] Coastal Plain/Perched Well
/ = Duplicate samples
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MW-12, MW-13, 2TP-10, and 2TP-11 added to semi-annual sampling in June 2011
Starting in November 2009 samples analyzed using EPA Method 8260
* Well on biennial sampling frequency
Table presents concentrations from May 2008 to the present

ATTACHMENT 3

To Semi-Annual Project Progress Report
RCRA Corrective Action Permit
No. MDD046279311

General Electric Co.
Former Appliance Park East Facility
Columbia, MD

Period 1 July 2017 to 30 December 2017

Findings Summary for the Phase II SVE System at RFI Units 2 and 7

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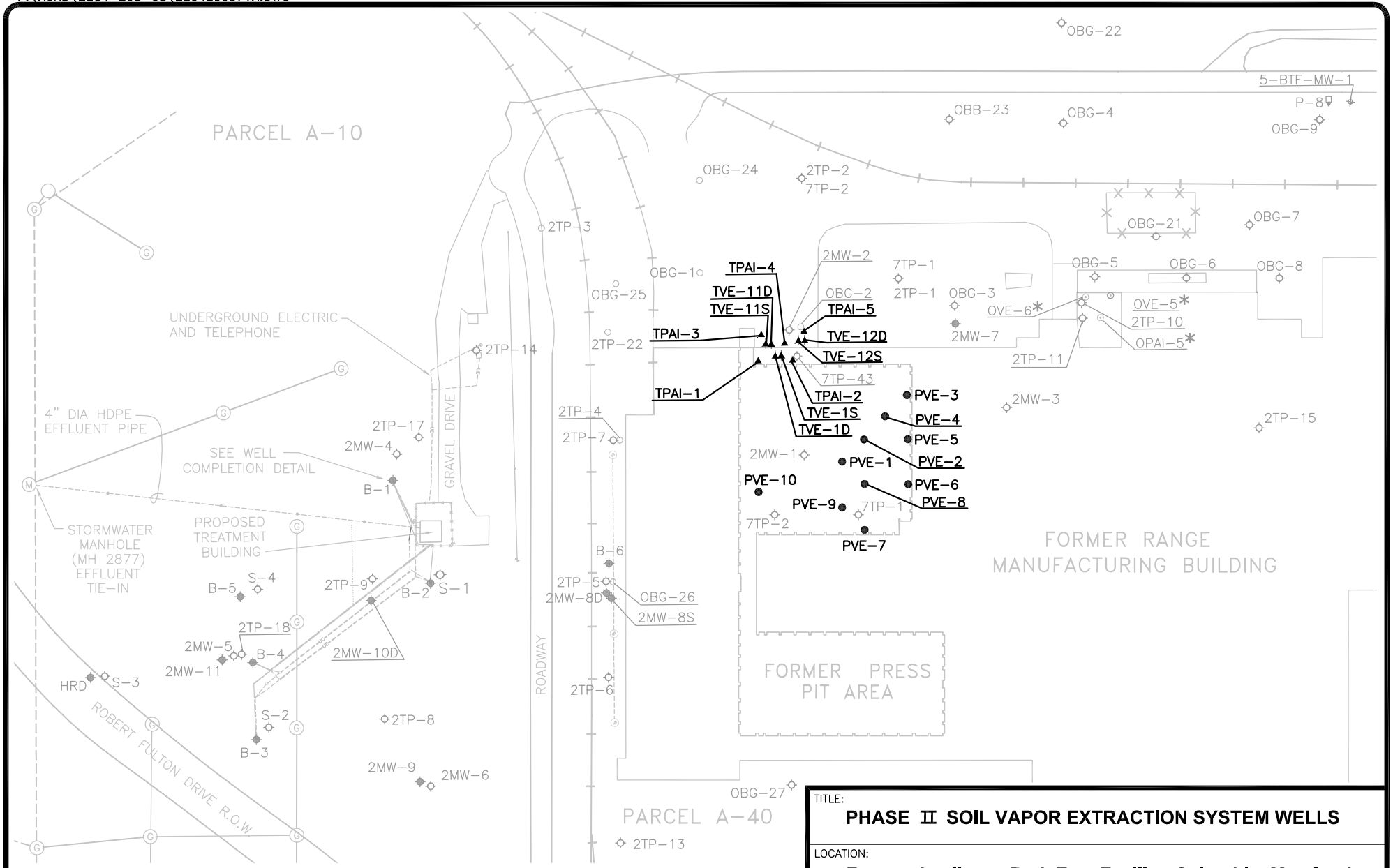


0 150 300

SCALE IN FEET

LEGEND

* WELLS DECOMMISSIONED ON 12-20-2001.

TITLE:

PHASE II SOIL VAPOR EXTRACTION SYSTEM WELLS

LOCATION:

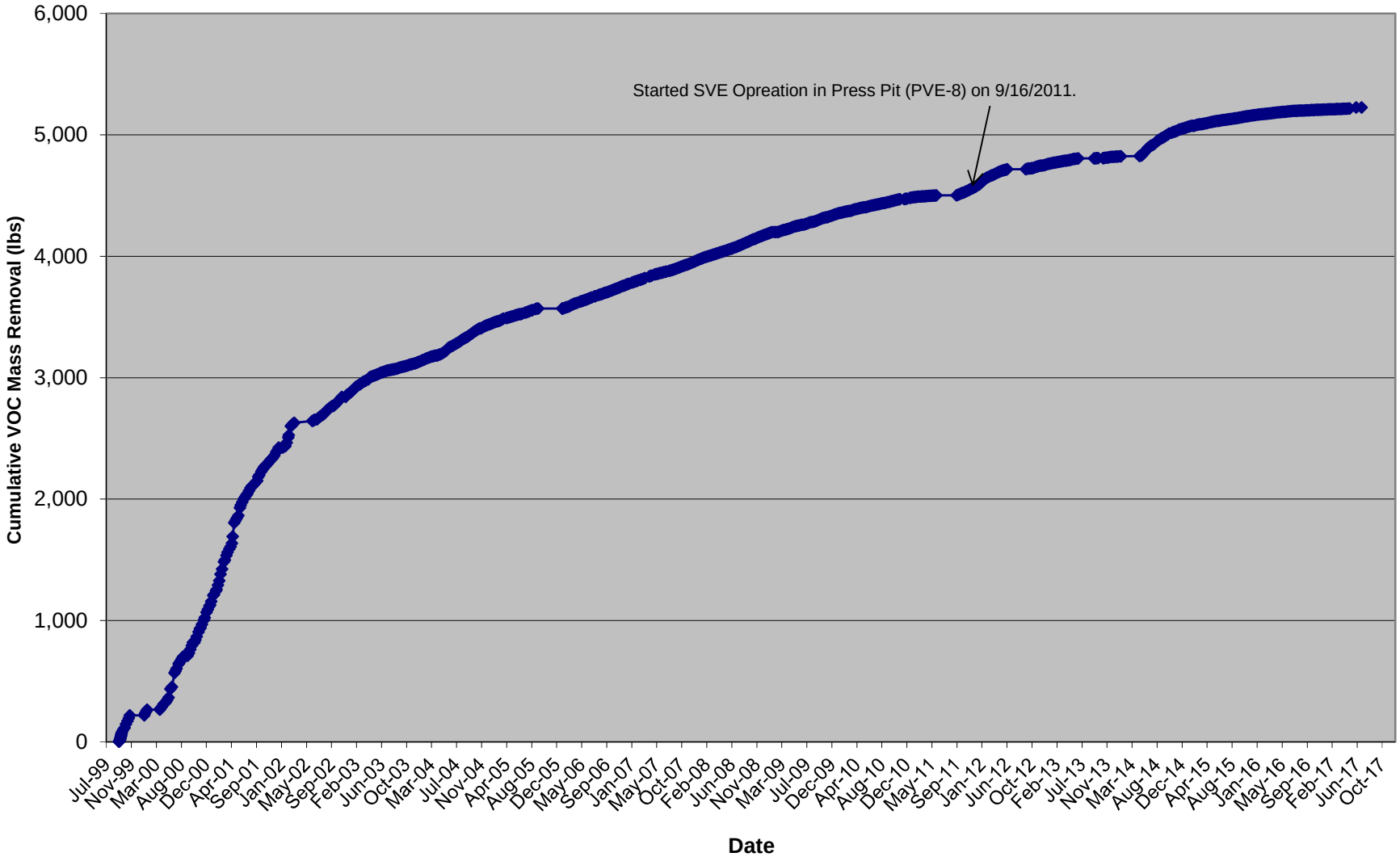
Former Appliance Park East Facility, Columbia, Maryland

TETRA TECH GEO

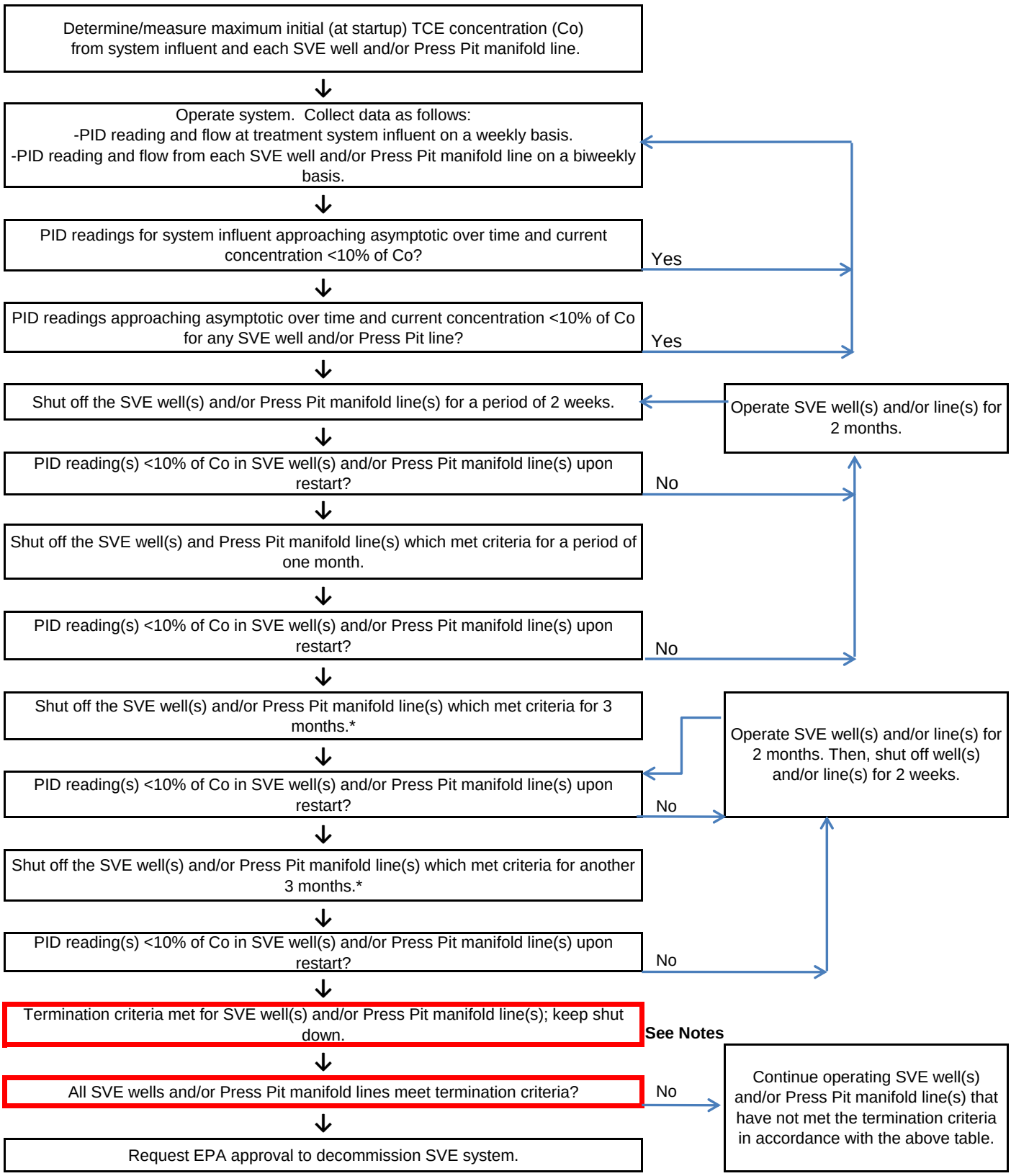
APPROVED	BC
DRAFTED	CP
PROJECT#	117-2204200
DATE	8-25-11

FIGURE 1

Phase II Soil Vapor Extraction System VOC Mass Removal
Former Appliance Park East Facility, Columbia, Maryland



Phase II Soil Vapor Extraction System Termination Criteria
STATUS AS OF OCTOBER 2017
Former GE Appliance Park East Facility, Columbia, Maryland



NOTES
1. SVE wells TVE-1S, TVE-1D, TVE-11D, and TVE-12D met termination criteria.
2. Press Pit manifold lines PMVE-2 and PMVE-4 met termination criteria in March 2017.
3. Press Pit manifold lines PMVE-1, PMVE-3, and PMVE-5 met termination criteria in October 2017.

ATTACHMENT 4

To Semi-Annual Project Progress Report
RCRA Corrective Action Permit
No. MDD046279311

General Electric Co.
Former Appliance Park East Facility
Columbia, MD

Period 1 July 2017 to 30 December 2017

Findings Summary for
Warehouse Building Oil/Water Separator and
Acid Neutralization Units
RFI Unit 6

2204275051A.DWG

FIGURE 1
GROUNDWATER ELEVATION CONTOUR MAP
NOVEMBER 17, 2017
RFI UNIT #6
GE - FORMER APPLIANCE PARK EAST
COLUMBIA, MARYLAND

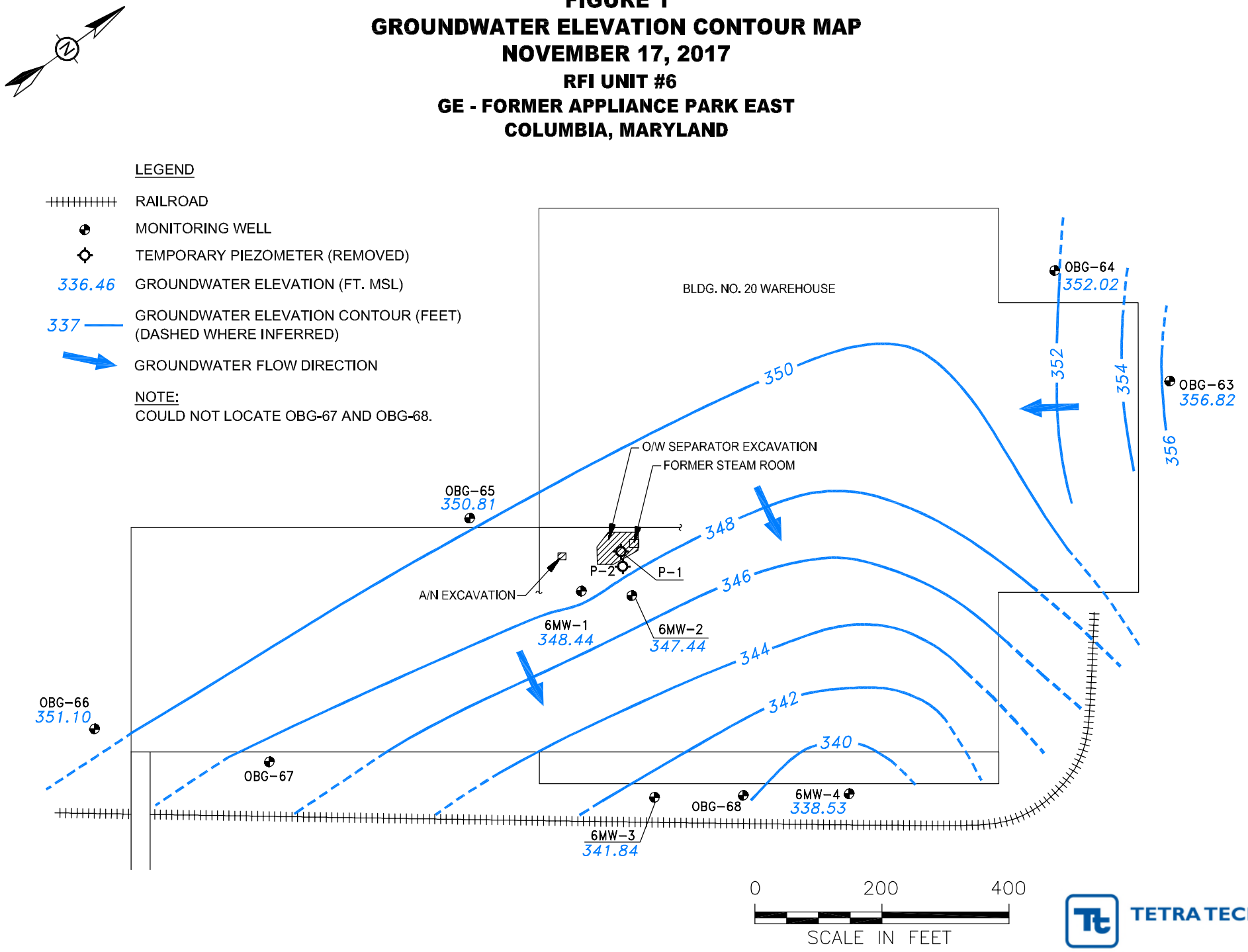


Table 1 Summary of Ground Water Elevations
RFI Unit 6
Former Appliance Park East, Columbia, Maryland

Date		17-Oct-94*		17-Jan-95*		18-Apr-95*		18-Jul-95*		16-May-02		14-Nov-07		29-Nov-12		17-Nov-17	
Well ID	Reference Elevation Feet, MSL	Depth to Water	Ground Water Elevation Feet, MSL	Depth to Water	Ground Water Elevation Feet, MSL	Depth to Water	Ground Water Elevation Feet, MSL	Depth to Water	Ground Water Elevation Feet, MSL	Depth to Water	Ground Water Elevation Feet, MSL	Depth to Water	Ground Water Elevation Feet, MSL	Depth to Water	Ground Water Elevation Feet, MSL	Depth to Water	Ground Water Elevation Feet, MSL
6MW-1	359.70	10.99	348.71	11.41	348.29	11.37	348.33	11.05	348.65	12.69	347.01	12.08	347.62	11.53	348.17	11.26	348.44
6MW-2	359.49	11.58	347.91	12.04	347.45	11.93	347.56	11.55	347.94	13.42	346.07	12.68	346.81	12.30	347.19	12.05	347.44
6MW-3	355.21	11.91	343.30	12.00	343.21	12.17	343.04	11.77	343.44	17.14	338.07	14.76	340.45	13.84	341.37	13.37	341.84
6MW-4	355.17	10.81	344.36	10.52	344.65	NM	--	10.59	344.58	15.83	339.34	16.55	338.62	16.86	338.31	16.64	338.53
OBG-63	361.58	9.61	351.97	8.33	353.25	9.22	352.36	9.35	352.23	5.60	355.98	5.61	355.97	4.86	356.72	4.76	356.82
OBG-64	362.40	11.33	351.07	10.52	351.88	11.01	351.39	11.00	351.40	11.51	350.89	11.99	350.41	11.35	351.05	10.38	352.02
OBG-65	362.61	11.97	350.64	11.83	350.78	12.30	350.31	12.12	350.49	13.33	349.28	13.41	349.20	12.50	350.11	11.80	350.81
OBG-66	361.99	11.81	350.18	12.57	349.42	12.42	349.57	11.95	350.04	13.54	348.45	13.37	348.62	11.59	350.40	10.89	351.10
OBG-67	355.05	5.44	349.61	5.55	349.50	5.38	349.67	4.36	350.69	6.69	348.36	NM	--	NM	--	NM	--
OBG-68	355.54	12.05	343.49	12.27	343.27	12.50	343.04	11.93	343.61	NM	--	NM	--	NM	--	NM	--

Notes:
* - Data presented in *Addendum to the RCRA Facility Investigation Report for RFI Unit 6,* dated 2 August 1995
Reference elevation for all wells is top of PVC casing
MSL - Mean Sea Level
NM - Not measured, well was inaccessible

Table 2 Detected Analytes for Ground Water Samples
RFI Unit 6
Former Appliance Park East, Columbia, Maryland

Sample Number			6-MW-1					6-MW-2					6-MW-3					OBG-65				
Sample Collection Date			8/22/94*	05/16/02	11/14/07	11/29/12	11/17/17	8/23/94*	05/16/02	11/14/07	11/29/12	11/17/17	8/23/94*	05/16/02	11/14/07	11/29/12	11/17/17	8/22/94*	05/16/02	11/14/07	11/29/12	11/17/17
Analyte	**HBN**	**PQL**																				
Field Parameters																						
pH (standard units)	--	--	6.9	6.4	5.9	6.3	6.4	6.3	6.2	6.7	6.0	6.1	6	6.6	6.8	6.7	6.8	6.2	6.4	6.2	6.0	6.0
Conductivity (mS/cm)	--	--	NA	0.169	0.238	0.116	0.147	NA	0.203	0.660	0.079	0.083	NA	0.771	0.616	0.298	0.321	NA	0.213	0.315	0.090	0.120
Temperature (^{0}C)	--	--	NA	19.8	17.4	19.1	20.0	NA	19.7	16.5	19.5	19.9	NA	16.7	16.6	17.7	17.8	NA	15.9	15.7	16.1	15.1
D.O. (mg/L)	--	--	NA	2.83	NA	NA	NA	NA	0.84	NA	NA	NA	NA	2.21	NA	NA	NA	NA	4.63	NA	NA	NA
Permit List 4 Volatiles (µg/L)																						
1,1-Dichloroethene	7	5	--	< 5	< 5	< 5	< 1	--	30	56	85	99.2	--	< 5	< 5	< 5	< 1	--	< 5	< 5	< 5	< 1
cis-1,2-Dichloroethene	--	5	NA	< 5	< 5	< 5	< 1	NA	82	89	97	65.6	NA	< 5	< 5	< 5	< 1	NA	< 5	< 5	< 5	< 1
1,2-Dichloroethene (total)	100	5	--	NA	NA	NA	NA	11	NA	NA	NA	NA	--	NA	NA	NA	NA	--	NA	NA	NA	NA
Trichloroethene	5	5	--	< 5	< 5	< 5	< 1	24	110	130	170	170	--	< 5	< 5	< 5	< 1	--	< 5	< 5	< 5	< 1
Benzene	5	5	--	< 5	< 5	< 5	< 1	2 J	< 5	< 5	< 5	< 1	--	< 5	< 5	< 5	< 1	--	< 5	< 5	< 5	< 1
Tetrachloroethene	5	5	--	< 5	< 5	< 5	< 1	--	6	18	44	75.9	--	< 5	< 5	< 5	< 1	--	< 5	< 5	< 5	< 1
Inorganic Parameters (µg/L)																						
Antimony	10	30	--	< 5	NA	NA	NA	--	< 5	NA	NA	NA	--	< 5	NA	NA	NA	--	< 5	NA	NA	NA
Chromium	100	10	2.2 J	< 3	NA	NA	NA	0.44 J	< 3	NA	NA	NA	--	< 3	NA	NA	NA	--	< 3	NA	NA	NA

Notes:
mg/L - milligrams per liter
µg/L - micrograms per liter
HBN - Health Based Number
PQL - Practical Quantitation Limit
* - Data presented in *RCRA Facility Investigation Report for RFI Unit 6,* dated 3 March 1995
< 5 or < 1 - Analyte not detected, value indicates detection limit
-- - Not detected.
NA - Not analyzed
J - Analyte present, result may not be accurate or precise
B - Not detected substantially above the level reported in laboratory or field blanks
d - Sample is a duplicate of 6-MW-2

Table 2 (cont.) Detected Analytes for Ground Water Samples
RFI Unit 6
Former Appliance Park East, Columbia, Maryland

	Sample Number		6-MW-4		OBG-67	OBG-68	6-MW-100[d]	6-MW-20[d]	6-MW-5[d]			6-FB-1		6-EB-1		6-TB-1		TB-1		
	Sample Collection Date		8/23/94*	05/16/02	8/23/94*	8/23/94*	8/23/94*	05/16/02	11/14/07	11/29/12	11/17/17	8/22/94*	05/16/02	8/22/94*	05/16/02	8/23/94*	05/16/02	11/14/07	11/29/12	11/17/17
Analyte	**HBN**	**PQL**																		
Field Parameters																				
pH (standard units)	--	--	5.4	6.2	6.8	6.7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Conductivity (mS/cm)	--	--	NA	0.908	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Temperature (^{o}C)	--	--	NA	16.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
D.O. (mg/L)	--	--	NA	4.59	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Permit List 4 Volatiles (µg/L)																				
1,1-Dichloroethene	7	5	--	< 5	--	--	--	30	57	84	98.6	--	< 5	--	< 5	--	< 5	< 5	< 5	< 1
cis-1,2-Dichloroethene	--	5	NA	< 5	NA	NA	NA	83	95	96	66.1	NA	< 5	NA	< 5	NA	< 5	< 5	< 5	< 1
1,2-Dichloroethene (total)	100	5	--	NA	--	--	10	NA	NA	NA	NA	--	NA	--	NA	--	NA	NA	NA	NA
Trichloroethene	5	5	--	< 5	--	--	23	110	130	170	170	--	< 5	--	< 5	--	< 5	< 5	< 5	< 1
Benzene	5	5	--	< 5	--	--	2 J	< 5	< 5	< 5	< 1	--	< 5	--	< 5	--	< 5	< 5	< 5	< 1
Tetrachloroethene	5	5	--	< 5	--	--	--	6	17	45	75.2	--	< 5	--	< 5	--	< 5	< 5	< 5	< 1
Inorganic Parameters (µg/L)																				
Antimony	10	30	--	< 5	2.3	--	--	< 5	NA	NA	NA	--	< 5	--	< 5	--	< 5	NA	NA	NA
Chromium	100	10	2 J	< 3	7.9	3.8 B	--	< 3	NA	NA	NA	1	< 3	--	< 3	--	< 3	NA	NA	NA

Notes:
mg/L - milligrams per liter
µg/L - micrograms per liter
HBN - Health Based Number
PQL - Practical Quantitation Limit
* - Data presented in *RCRA Facility Investigation Report for RFI Unit 6,* dated 3 March 1995
< 5 or < 1- Analyte not detected, value indicates detection limit
-- - Not detected, detection limit not available
NA - Not analyzed
J - Analyte present, result may not be accurate or precise
B - Not detected substantially above the level reported in laboratory or field blanks
d - Sample is a duplicate of 6-MW-2